

INTERNATIONAL JOURNAL OF DRAVIDIAN LINGUISTICS

Reg. No. 22651/72

VOLUME XXV NUMBER 1

JANUARY 1996

Alexis Manaster Ramer	<i>About Proto-Dravidian *Guti (*Guddi) 'House' vs. *Kuru 'Blood'</i>	1
Rm. Sundaram	<i>Coining of Technical Terminology</i>	4
G.S. Rao	<i>Formation of Technical Terms in Indian Languages</i>	22
C.G. Ramachandran Nair	<i>Coining of Scientific and Technical Terminology</i>	35
Arun Ghosh	<i>GTA? Phonology</i>	44
K. Viswanatham	<i>Second Language Acquisition by Cognate vs. Non-Cognate Learners: An Empirical Study</i>	65
Gouri Sankar Mahapatro & Ranjan Kumar Das	<i>Nature of Honorific in Oriya</i>	76
Setjit Kaur	<i>Impact of Socio-Linguistic and Achievement Indicators on ESL Proficiency: An Application of Cloze Test to Punjabi Subjects</i>	83
Alibha Dakshi	<i>Bengali Verb - An Aspectual Approach</i>	104
Notes & Discussions		
Debaprasad Bandyopadhyay	<i>Archaeology of Bangla Grammar</i>	126
Review		
T.M. Menon	<i>Mleccha - The Evolution of its significance</i>	133
C.A. Winters	<i>Deciphering the Indus Script</i>	136
A.M. Marykutty	<i>The Book of Indian Names</i>	140
F.D. Manjali	<i>Sémantique Générale</i>	143
S. Saha	<i>New additions of dialectal vocabulary and dictionaries to the Bengali Section of the ISDL Library</i>	150

DRAVIDIAN LINGUISTICS ASSOCIATION

KERALA PAANINI BUILDINGS

ST. XAVIER'S COLLEGE P.O.

TRIVANDRUM - 86, KERALA

ಬಿ. ಎಂ. ಶ್ರೀ ಸ್ವಾರಕ ಪ್ರತಿಷ್ಠಾನ
ಗ್ರಂಥ ಭಂಡಾರ EDITORIAL BOARD

ಕ್ರಮ ಸಂಖ್ಯೆ.....654.....Hon. Editor
ವರ್ಗ.....V.I. Subramoniam
ವರ್ಗ ಸಂಖ್ಯೆ.....Chief Editor
.....A.P. Andrews Kutty

ಬಿಂಡ ಕಾ|| Deputy Editors

ಬಿಲಿ.....E. James R. Daniel (Nagercoil)
.....B. Sreedevi (Calicut)
.....Annie Monsy (Trivandrum)
.....B. Anvita Abbi (New Delhi)

Editorial Board

James W. Gair (U.S.A.)
John F. Mar (U.K.)
A. Govindankutty (Netherlands)
N. Gurov (Russia)
K. Kapp (Germany)
E. Annamalai (Mysore)
M. Israel (Madurai)
G. Sambasiva Rao (New Delhi)
B.P. Mahapatra (Calcutta)
K. Rangan (Tanjore)

Committee of Management

President, Vice-President, Secretary and Treasurer of the DLA resident at Trivandrum, Hon. Editor, Chief Editor and Deputy Editors of the *IJDL* resident at Trivandrum, Editor of the DLA News, Director of the ISDL, P. Somasekharan Nair (Trivandrum), J. Neethivanan (Madurai) and Puthusseri Ramachandran.

Endowment Committee

Hans Raj (ICSSR, New Delhi)
G.K. Panikkar (DLA, Trivandrum)
V.I. Subramoniam, Hon. Editor (*Ex-Officio*)

Duration

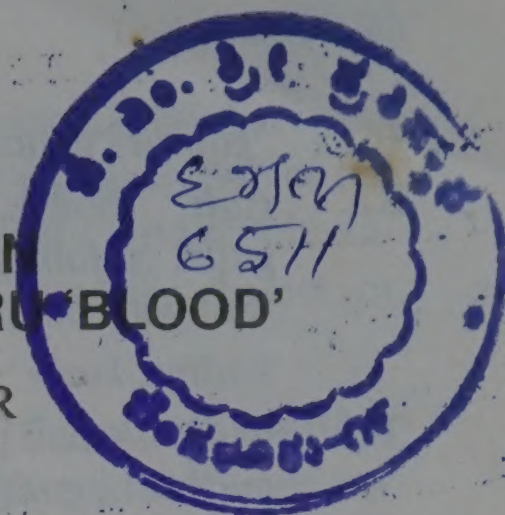
The journal will be a biannual in English to be published in the first week of January and June each year.

Papers

The manuscripts of articles should be submitted in *triplicate* typed double space with wide margins. Language data should be underlined with meanings in inverted commas. The systems of footnoting and listing of bibliography will be those adopted in *Language*. The article, if theoretically important, will be treated as in *Current Anthropology* and published with comments and replies. Fifty offprints will be issued free of cost to the authors. Classical papers which are out-of-print will also be republished if there is demand.

**ABOUT PROTO-DRAVIDIAN
*GUTI (*GUDDI) 'HOUSE' VS. *KURU 'BLOOD'**

ALEXIS MANASTER RAMER
Wayne State University



Many Dravidian languages contrast initial voiced and voiceless stops, but no one has to date, been able to explain in a satisfactory manner where these contrasts come from. Although some scholars have argued for such a contrast in the proto-language (references in Zvelebil 1970: 78), the opposite view has triumphed (Zvelebil idem; Burrow and Emeneau 1984: xii-xiii; Andronov 1978: 103, 108, and passim). The voiced initial plosives, which are found in numerous languages synchronically, are either ignored (Burrow and Emeneau) or claimed to be secondary.

A major part of the reason for claiming that the initial voiced stops are secondary is that many of the etyma are seen as exhibiting variation between initial voiced and voiceless stops within the same language. Thus Andronov (p. 108) refers to "parallel forms, differentiated by the voiceless or voicing of one of the consonants" in Telugu [translation mine-AMR]. To be sure, we find some discrepancies between these languages and some variations between voiceless and voiced within cognate forms in one and the same language, and some examples will be noted. However, once we eliminate onomatopoeia and other expressive forms, we find that in case after case, these discrepancies and variations are only apparent. In some instances they are due to incorrect etymologies, where unrelated forms, one with a voiced, the other with a voiceless, initial, have been lumped together. In other cases, there is evidence of the (otherwise generally acknowledged) massive borrowing between dialects and languages that has so often bedeviled Dravidian comparative work.

Consider now a single example of how the failure to separate the wheat from the chaff has obscured the true picture. I will show that there is a Dravidian etymon whose reflexes in Kannada, Tulu, Telugu, and Gondi argue for an initial voiced stop. The number of the etymon as well as all the data are from Burrow and Emeneau. Burrow and Emeneau do not give proto-Dravidian reconstructions, but they assume initial voiceless stops in all such cases. Although I give some tentative forms, since I am unsure about the exact form of the etyma as regards the phonemes after the initial CV- (and especially the final vowels), I am only making definite claims about that first CV- portion.

1655 **guṭi* or **guddi*

Ka. *gudi* 'house, temple'
guḍil, guḍalu, guḍisalu, guḍasalu, guḍasala, etc.
 'hut with thatched roof'

kuḍiya, kuḍu 'sudra, farmer'

Tu. *gudi* 'small pagoda or shrine'
guḍisalU, gud(i)silU, guḍicilU 'hut, shed'

Te. *gudi* 'temple'
guḍise 'hut, cottage, hovel'
koṭika 'hamlet'

Go (Ko.) *kurma* 'hut', outhouse', (Ma.) *kuruma* 'menstruation'
 (Grigson) *kurma lon* 'menstruation hut'
 (SR.) *gudi* (Mu.), *guddi*, (S. Ko), *guri*, (Ph.) *guddi* 'temple'
 (Tr.) *guddi* 'tomb'

(N.B. The parenthesized sigla under Gondi indicate different sources and different dialects.)

Here we see neatly displayed most of the problems alluded to above, since Burrow and Emeneau's forms seem to exhibit variation between *k-* and *g-* in the reflexes of this etymon. However, this is an illusion.

Kannada has *g-* in the words for 'house, temple, hut' and *k-* in the words for 'sudra, farmer'. Even if these are ultimately related, it is clearly not enough to talk of secondary voicing here. Since Kannada does not have any of the meanings which would span the gap between 'hut' and 'farmer', it is indeed likely that the latter is a borrowing from a language which does have such transitional meanings. Such languages include Tamil, where we find *kuṭi* 'house', abode, home, family, lineage, town, tenants' as well as *kuṭiyāl* 'tenant', and Malayalam, which has *kuṭi* 'house, hut, family, wife, tribe' as well as *kuṭiyan* 'slaves', *kuṭiyān* 'inhabitant, subject, tenant'.

In the Telugu case, the difference between the first vowels of *gudi* et al. and *koṭika* also suggests that the latter may be a borrowing. Note that the vowel difference here gives us an independent reason for considering this to be a loan-word, so that we are not committing any circularity in rejecting this form.

Now, in the words of Burrow and Emeneau (1984: xv):

This frequently brings it about that, to take the simplest case, a language has two forms that descend from the same PDr. reconstruction, and consequently shows two correspondences for the same PDr. phoneme. Often enough, it is possible to decide that one of these correspondences represents direct descent from PDr., and that the other represents borrowing.

I see no reason why borrowing has not been invoked to explain the variations in initial voicing. Of course, such an explanation should be sup-

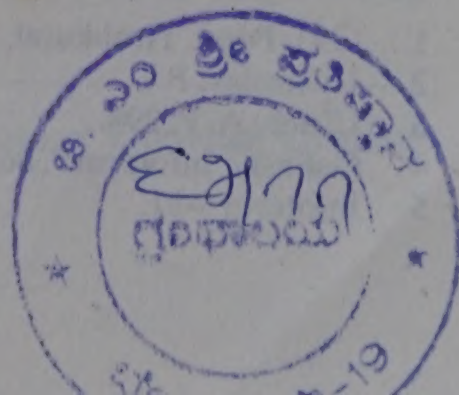
ported by independent evidence to support the borrowing hypothesis in individual cases. Fortunately, we find that in most, if not all cases, one of the variants is a form containing other irregularities (semantic and/or phonological) which point to its being a loan-word from another dialect or another Dravidian language.

What is even more troubling is the problem of lumping together forms which are not related at all (that is, neither by common descent nor by borrowing). Consider Burrow and Emeneau's treatment of the Gondi forms. The inclusion of (Ko.) *kurma* 'hut, outhouse', (Ma.) *kurma* 'menstruation', (Grigson) *kuruma lon* 'menstruation hut', in this lemma can only be justified if the meaning 'hut', outhouse' is primary and the meaning 'menstruation' derived from it. However, the compound form *kurma lon* 'menstruation hut' clearly points to *kurma* being primarily 'menstruation' since *lon* by itself is given under lemma 698 as meaning 'house'. As for *kurma* ~ *kurma* 'menstruation', this just claims for inclusion under lemma 1788, (**kuru* 'blood') with Tamil *kuruti* 'blood, red colour', Malayalam *kuruti* 'blood', Kannada *kurudi* 'coloured red water', Tulu *kur(u)di* 'red liquid prepared by mixing turmeric and lime, used for auspicious purposes'.

Thus, we end up with a situation where all the genuine reflexes of the etymon under discussion do begin with g- in the four languages under discussion. Of course, we have only considered four languages. This need not be a problem, however, since distinctions in proto-Dravidian need not survive in all or even most of the daughter languages. The real question is whether we can find a consistent set of forms with initial voiced stops in some set of languages. As shown in Manaster Ramer (to appear), there are in fact several more such sets linking the same four languages.

Bibliography

- Andronov, M.S. 1978. *Sravnitel'naja grammatika dravidijskix jazykov*. Moscow: Nauka.
- Burrow, T. & Emeneau, M.B. 1984. *A Dravidian Etymological Dictionary*. Second Edition. Oxford: Clarendon Press.
- Manaster Ramer, Alexis. "Not even a single stem': Some Indications of Dravidian Voiced-Voiceless Contrasts" (To appear).
- Zvelebil, Kamil. 1970. *Comparative Dravidian Phonology*. The Hague, Paris: Mouton.



COINING OF TECHNICAL TERMINOLOGY

Rm. SUNDARAM
Tamil University

Introduction

'Learning is shoreless sea, learners' days are few'¹ says *Naladiyār*, a 7th century Tamil ethic literature. Within this short span of time man is eager to know, at least something of everything in the world of 'Knowledge unbounded'. 'Language', to quote Hjelmslev² (which) is inseparable from man and follows him in all his works, lends a helping hand to quench his thirst for knowledge, general or specific. If the knowledge is specific, the language, too, is specific called 'Language for Specific Purpose' (LSP). 'LSP' by definition, 'represents the totality of linguistic means used in a limited sphere of communication on a restricted subject in order to enable cognitive work to be done and mutual information to be conveyed by those acting in the said domain'.³ Though LSP does not differ much from the general language at the phonological and grammatical levels, it differs mainly at lexical level, having specific vocabulary, called 'technical terminology'. Galinski observes: 'Parallel to the expansion of scientific knowledge, language also expands. New concepts are created and assigned to terms. Thus, it can happen that existing terms are used differently or in a more restricting sense than in the general language. In this way, a separate scientific language develops which shares nothing but the grammatical structure with the general language'.⁴

Considering the importance of technical terms in LSP, attempts were made in the 18th and 19th centuries to systematize the technical terms, by Linne (1735) for biology and by Morveau (1782) for chemistry. Congresses were held in 1867, 1889 and 1892 to discuss the 'terminological issues' involved in botany, zoology and chemistry, respectively⁵. Samuel Fish Green (1822-84), an American missionary who worked in Jaffna (Sri Lanka), has formulated certain rules for coining technical terms in Tamil and published two glossaries;

1) Physiological vocabulary (1872) and

1 G.U. Pope, Tirukkural, P. 252.

2 Hjelmslav. P. I.

3 Ulrich, A. P. 298.

4 Galinski, Infoterm 7, 86.

5 Infoterm 9-81.

2) Vocabulary for materia medica and pharmacy (1875), besides a few books on medicine and chemistry in Tamil. It is unfortunate that his contribution to terminological study went unnoticed even by terminologists.

Terminological activities,⁶ with a new vigour, are being continued, now, by various agencies in an organized manner, involving subject experts, linguists, language mediators, translators and terminologists. It seems that there are 278 agencies working on 30 languages in 65 countries. To co-ordinate these terminological works, an 'International Information Centre for Terminology' was set up in 1971 at Vienna, Austria. This centre is the successor of 'International Organization for Standardization' (ISO) formed in 1951. ISO has published through its *Technical Committee TC 3/7* 7 key documents regarding the terminological principles and methods. Before the formation of ISO, and 'International Federation of National Standardizing Associations' (ISA) was established in 1936, at the initiative of Soviet terminologists, who were much impressed by the *General Theory of Terminology* formulated by Eugen Wuster in 1931, supposed to be the father-figure of the present century terminological activities.

Term, Terminology, Terminography and Concept

In terminological literature, we often come across the words, 'term', 'terminology', 'terminography' and 'concept'. Let us have a look at them. A 'term', any conventional symbol for a concept defined in a subject field, is different from a 'word'. By definition "a term is a linguistic symbol with one or more strictly defined (distinct) meanings", whereas "a word is a linguistic symbol which can have a multiplicity of non-defined meanings and of many shades of meanings"⁷. Eg. In linguistics, the linguistic symbol 'linguist' is a term assigned to the concept of *specialist in linguistics*; in general language, it is a 'word', meaning a *polyglot* - 'a person who knows many languages'. On the role of meaning in general and specific languages, W. Nedobity has the following to say:

'The difference between general and special languages lies in the fact that in the first the meanings are loosely attached to the linguistic symbols and rely on the observation of regularities in usage while in the second, there are deliberately constructed systems of concepts and terms which are firmly assigned to each other and thus constitute prescriptions of usage'⁸. To be precise: Term, 'a linguistic symbol for a concept defined in a subject field' is specific, concept-based and subject-oriented; word, is general, meaning-based and context-oriented⁹.

⁶ Endowment lecture delivered at the 23rd All India Conference of Dravidian Linguists held at Thiruvananthapuram from 22 to 24, June 95.

Infoterm 4-81.

ibid 1-83.

ibid 9-82.

'Terminology', as a science, 'deals with the research of concepts and respective terms'¹⁰. The emergence of terminology as a branch of science is due to the *terminological explosion* caused by the fast development of S & T in our era. The inflow of thousands of terms covering a number of S & T fields, necessitates a separate branch of knowledge to study the terms systematically and scientifically. The outcome of this necessity is the *science of terminology*. The architect behind the development of terminology as a science, was Eugen Wuster, an Austrian Engineer, as stated earlier.

Eugen Wuster (1898-1977), deeply interested in the study of technical terms, has constructed a general theory of terminology in his doctoral thesis, 'International Standardisation of languages in Engineering, especially in electrical engineering' (originally, 'International's sprachnormung in der Technik, besonders in der Elektrotechnik) and published it in 1931. The publication of this book opened new vistas in terminological activities.

'The main objective of the general theory of terminology' as stated by H. Febber¹¹ 'is the investigation of the basic principles and laws which are characteristic of systems of concepts, of concepts and of their assigned terms.... These laws concern the nature of concepts, their characteristics, the relations among concepts, the system of concepts, the description of concepts, i.e, definitions, explanations etc., the assignment of terms to concepts and vice-versa, the nature and formation of terms'. L. Drozd and M. Rudny summarize the theory as follows:

'Terminological activity deals with the artificial formation of terms and with standardization and integration of terminology which is usually connected with the classification and systematization of scientific and technical concepts'¹².

The following definition briefly states the three successive stages that involve in terminological work:

Terminological work is mainly concerned with problems of denomination, starting from an agreement upon the meaning of concepts and the relations between them, passing on to the description of their essential characteristics, arriving finally at terms and their definitions as parts of terminological system.¹³

Terminography, also called as *Terminological Lexicography* is a part of Terminology (cf. Lexicology/Lexicography). 'Its main purpose is the recording of assigned term-concept relationship including the position of concept in the system of concepts, ie., to record terminological data which

10 *ibid* 1 - 79.

11 *ibid* 4 - 81.

12 *Int. Jour. of soc. of lgs*, no. 23.

13 Ulrich, A. P. 636.

give a precise description of a concept and indicate the relations between a concept and other concepts'.¹⁴ From this definition, we understand that the work of terminography is to prepare technical dictionaries with all informations concerning terms and concepts.

Concept

'A concept is that which remains in our memory from the impression of an individual object or factual situation and which helps us to identify this object or factual situations. 'Concept, as a unit of thought, is generally expressed by a term, a letter symbol or any other symbol'.¹⁵

On the basis of the definitions given above, we can summarize that terminology is a branch of science dealing with:

- a) Analysis of concepts
- b) Coining of terms
- c) Assignment of terms to concepts
- d) Standardisation of terms and
- e) Preparation of terminological dictionaries.

Terminological activities in India-an Overview

It will not be out of place to have an overview on the development of terminological activities in India before and after the Western impact on our terminological work. Though terminology, as a distinct branch of study, is of recent origin, terminological work, - coining a term and assigning it to a concept - is rather as old as human thought. Our forefathers who tried to unlock the secrets of material and spiritual worlds framed certain concepts based on their findings, created terms and assigned them to the concepts. For example: *ātma*, (soul), *dravya* (mass/matter), *guṇa* (quality), *prakṛiti* (nature), *karma* (action) are some of the terms found in Skt. philosophical treatises. *Pāṇini* and *Pathaṅjali* coined a number of grammatical terms for Sanskrit as *Tolkāppiyar* and his commentators did for Tamil. It is interesting to note that *Vedic* people, 'attracted to the consideration of questions connected with the anatomy of the body, enumerated many parts of the body with some approach to accuracy and orderly arrangements'. *Atharva-veda* and *yajur veda* have hundreds of anatomical and physiological terms, with marked similarities with the later systems of *Caraka* and *Susruta* (ayurvedic physician and surgeon, respectively). To cite a few terms from the *Veda*: *māmsa* (flesh), *aṅguliḥ* (fingers), *kabandha* (trunk), *ūrū* (thighs), *aṣṭi* (bone), *mukha* (mouth), *mastiṣka* (brain)¹⁶. Correspondingly, we have *tacai*, *viral*, *talaikkurai*, *totai*, *enpu*, *vāy* and *mūlai* in Tamil.

14 Infoterm 10 - 88.

15 ibid 4-81, 10-79.

16 Vedic Index. entry 'sarira'.

Tolkāppiyar has classified 'literary words' into four on the basis of nativity vs foreignness: *iyarcol*, *tiricol*, *ticaiccol* and *vaṭacol*. Of these four, *vaṭacol* is a foreign word' referring to Skt; *iyarcol* and *tiricol* are native words. *Ticaiccol* may be a dialectal word or a cognate. This classification of words into two groups, native vs foreign, is also applicable to our terminological work. One of the basic principles of terminology is to adopt the native or existing term for a modern concept. Borrowing a foreign word is yet another principle accepted in terminology. When we could not find a native word to denote a new concept, we are asked to coin or create a new term. Later day grammarians referred to this mechanism as *kattiya valakku* (usage which is coined), equivalent to our 'coining of terms'¹⁷ *Paribhāṣai*, *saṅgētam*, *kulūkkuri* - are some of the terms used in Tamil to denote technical terms.

Our grammarians have also laid down certain rules for word-formation based on the internal or external characteristics of an object or a concept (colour, shape, function etc. are some of the internal characteristics and place, time etc are some of the external characteristics).

Eg. *kariyaṇ*, (black-one), *neṭiyaṇ* (tall-one), *pōkku* (going); *vinṇōr* (heavenly beings), *ōṇattāṇ* (one who was born in Onam nakshatra).

Under the classification of nouns into *iṭukuri* and *kāraṇam* based on the criterion, arbitrariness/unarbitrariness (ie., logic and reasoning); most of the concept-related terms belong to the second category. When they could not coin a single word; they were at liberty to create compounds and phrases: For example *paravai* (bird), *marāṅkkotti* (wood-cutter); *peyar* (noun), *peyareṇcukilavi* (relative participle), *peyareccam* (relative participle). Modern terminologists also permit this language mechanism. Our grammarians also identified certain suffixes with specific meanings, such as 'agent', 'actor', 'state of being', 'quality' etc., to be added to roots/stems for coining new terms. Eg. *nīri* (one which lives in water); *inimai* (sweetness) etc. Works on astronomy, astrology, medicine, technology, alchemy, philosophy, logic, besides the works on grammar, literature and *nikanḍu* in Sanskrit and Tamil abound with thousands of technical terms, meeting the requirements of our ancestors.

Modern science and technology was first introduced in India around the beginning of the 19th century. Attempts were made to teach S & T through Indian languages at all levels in a phased programme. It was then found that Indian languages did not have adequate terms to express the modern scientific concepts. Hence, terminological activities were geared up and various institutes, both governmental and non-governmental, took an active part in terminological work.

17 Tolkāppiyam, Cenāvarayar sutra 399, Pīrayōkavivēkam. sutra 19.

Government of India set up a 'Commission for Scientific and Technical Terminology' in 1961. 'The functions assigned to it were: determination of the principles of evolution of terminology, coordination of the existing terminologies available in Hindi and other Indian languages, preparation and publication of approved terminological glossaries and preparation and publication of university level books and other reference literature etc. Thus in essence, the task of the Commission for Scientific and Technical Terminology was to take various measures so that Hindi and other modern Indian languages could replace English as media of instruction at all levels of higher education'¹⁸. The Commission was able to publish 1500 books in Hindi, 4500 titles in other Indian languages, besides the publication of 4 lakhs of S & T terms in Hindi. Glossaries of technical terms in other Indian languages were also published for the use of writers, teachers and students. A cursory count of the terms in Marathi, Malayalam and Telugu clearly shows the influence of Skt. and English which is comparatively less in Tamil. Attempts are being made to have a unified terminology for Indian languages. In this endeavour, the experience of 'International Information Centre for Terminology' (Vienna) will be of immense help.

Terminology in Tamil: A case study

Though all the Indian languages, as is evident from this overview, have been working vigorously since the early decades of the 19th century to enrich their specific vocabularies in all branches of knowledge to meet the demands of their academic community, Tamil is taken here as a case study because of my involvement in Tamil terminology for the past 12 years.

The introduction of Tamil as a parallel medium of instruction at various levels at different periods (primary level 1830s, High school level 1930s and at graduate level in colleges 1960; PG & Professional courses are still in English) encouraged the publication of textbooks and glossaries of technical terms in Tamil.

Publication of text books and glossaries

Bhūmi Sāstram (Geography), a book written by Rev. Fr. Rhenius (1832) 'to disseminate the modern science to Tamils' seems to be the first ever available science book in Tamil (a book on medicine *Vidyaharavali*, in Bengali, was published in 1820, by Felix Carey, a missionary).

Publication of Tamil science books and glossaries was also taken up by Sri Lankan Tamils during the period, as a parallel development. Books on mathematics were published here in 1850s. Samuel Fish Green, as noted earlier, has translated a few medical and chemistry books in Tamil and

18 Indian languages as media foreword.

published them, along with 2 glossaries during 1850-80. He has also taught chemistry and medicine through Tamil for a couple of years. Publication of textbooks and glossaries in Tamil is continuing till date without break, both in Tamil Nadu and Sri Lanka. Malaysia and Singapore joined the venture recently. A special mention should be made here about the activities of Tamil Nadu Textbook Society (formerly Bureau of Tamil Publications) which has so far published more than 1500 school and college level textbooks and 25 glossaries, since its inception in 1962. Tamil University has so far published 5 medical textbooks and one engineering textbook. 9 medical and 12 engineering textbooks are awaiting publication. Bharathidasan University has published 35 textbooks at graduate level. Tamil magazines and newspapers have also been doing a good service in popularising modern science since the 1830s.

Terminological activities

A systematic and scientific approach to the terminological work in Tamil was first attempted by Samuel Fish Green. Since his arrival at Jaffna in 1848, he took an active interest to learn Tamil with the help of his friends and students. He brought out the following medical books in Tamil; running into 4500 pages:

1. *Manusha aṅkātipātam* (human anatomy) 1872.
2. *Vaithiyākaram* (The principles and practice of medicine) 1872.
3. *Irana Vaithiyam* (The science and art of surgery) 1872.
4. *Kemisttam* (chemistry) 1875
5. *Ankātipāta Sukaraṇavāta urpāvaṇa nūl* (anatomy, physiology and hygiene) 1875.
6. *Manusha Sukaraṇam* (human physiology) 1883.
7. *Intu patārtta sāram* (pharmacopoeia & India) 1884.
8. *Vaithiyam* (practice of medicine) 1884.

These books will help us to study the scientific discourse in Tamil in the 19th century.

The outstanding contribution of Green to the development of scientific Tamil lies not in the publication of the books but mainly in his formulation of theory for coining technical terms in Tamil.

His theory of terminology: For the preparation of scientific terms are proposed the following rules:

Aiming to have each term brief, euphonious and opposite in derivation and accounting as practically Tamil, any word in good general use, seek for the term first in the Tamil thus,

1. Prefer a simple or compound word in common use (or)

2. If more appropriate some apt though abstruse word (or)
3. Compound the word by uniting roots or a root and a particle.
4. Rarely some apt radical word may be modified by giving it an ordinary termination or
5. Where there are several words wider, though similar in meaning, restrict one to specify the object (or)
6. Translate and join the several members of the English compound word.

Finding no term in Tamil, transfer to English, thus:

1. Write the word as a noun, tersely and smoothly, preserve its accent and the sounds of its radical portion and terminate in ordinary Tamil form.
2. Modify it when requisite, by the addition of an appropriate particle.
3. In compounds, if there be for any member a good Tamil word, combine it with the English word.

If the word cannot be satisfactorily Tamilized seek a term in Sanskrit thus:

1. Prefer a term sanctioned by both an English and Sanskrit and a Sanskrit and English dictionary.
2. Should no appropriate term be found, adopt some word expressive of one or more characteristics of the object to be named of.
3. Compound the word by uniting roots or a root and a particle.
4. Adopt a word having the same meaning as the original of the English derivative.
5. When there are several words of wider, though similar meaning, restrict one to specify the object.
6. If there be for any member of the English compound, a good Tamil word combine it with Sanskrit (Human Anatomy-Appendix).

According to his theory, first preference should be given to a native (Tamil) word, single or compound, which is in common use; if no word is found, a new term (single or compound) may be created according to the language structure. If there are many terms for a single concept one of the terms that satisfies the characteristics of the concept should be adopted. When there is no possibility of having a Tamil term, terms from English or Sanskrit may be borrowed and Tamilized. In a slightly modified version found in another work, he preferred Sanskrit to English. Loan-blend- ie combining a native word with a foreign word, is also permitted by him. For him, the term should be brief, euphonious and productive.

It is very interesting to note that the principles given by the Czechoslovakian Scientist, Jungmann in his five volume *Dictionary of Technical Terms* (1835-39) appear more or less similar to that of Green's. They are

Look at a term in (1) traditional national literature, (2) in vernacular languages and dialects, (3) in contemporary literature and poetry, (4) in other relevant (slavonic) languages (or) (5) coining a term or (6) translating foreign words. From these rules we could clearly understand that (1) adoption of existing words, (2) coining of new terms and (3) borrowing of foreign terms are the basic principles for *term-formation*.¹⁹ Lothar Hoffman, with a slight modification writes: 'Terms are highly important vehicles of scientific, technological and other specialised thinking. They must, therefore, satisfy rigorous demands and quality requirements, Eg. specialisation, conceptuality, exactitude, monosemia, one-to one relation between content and form, self-evidence, laconism, aesthetic and expressive, neutrality, systematry, independence from contexts, fixation by definition etc. To meet these requirements, is one of the aims of terminological work. One way to do this is by purposefully exploiting word-formation. Where word formation alone cannot supply sufficient terms, terminologists are augmented by redefined common words, loan-words, calques, metaphors, matonyms etc.'²⁰

The Glossaries, appended to Green's books, contain nearly 3000 terms, many of them with brief definitions. The percentage of Skt. terms appears to be higher than that of Tamil and English reflecting the language-situation in Sri Lanka during the 19th century. To cite a few terms -*aṅkātipātam* (anatomy), *enpu*, *elumpu*, *aṣṭi* (bone), *utiram*, *irattam* (blood, *purru* (cancer), *kalvaniyakkurral* (calvano puncture), *tēpam* (ointment), *nirutiram* (anaemia), and *nisāmaṇi* (stethoscope). It is a great pity that none of his works is available now in Tamil Nadu.

It was in 1916 that an association, exclusively for terminology, was formed in Salem under the name, 'Association for Tamil Sastra Paribhasa', which published a magazine containing terms in botany, chemistry, physics and astronomy. Poet Bharati, who advocated for education through mother tongue, reviewed this magazine and the activities of the association. In his review, he referred to a Committee at Benares engaged in compiling technical terms and recommended that Skt. terms might be adopted by Tamils in the interest of national unity. But, in another article he stated that Tamil terms should be preferred to Sanskrit and English terms. He has also attempted to coin certain terms and to give a simple but meaningful definition for a 'term' which is in conformity with that of the definitions given by modern terminologists. According to this definition, a 'term' is specific (not in general use) with a restricted meaning agreed upon by experts who use it in their respective fields'²¹.

19 Int. Jour. of soc. of lgs 23.

20 Ulrich A. P. 656.

21. Nuhman p. 123.

T. V. Sambasivam Pillai published a very impressive 3 volume dictionary with elaborate details, both in Tamil and English around 1931 (4th and 5th volumes were published in 1977 & 1978 respectively). His dictionary has very interesting notes on Ayurveda, Siddha, Unani and medicinal herbs.

A major event in the terminological activities in Tamil Nadu was the formation of a Committee for technical terms by the Government of Madras Presidency in 1932. This committee published glossaries of 7500 terms in hygiene, chemistry, commerce, geography and history, economics, administration, mathematics, natural science and physics. This publication invited a strong criticism from teachers and Tamil scholars for two reasons: 1. The glossaries were loaded with Sanskrit and English terms. 2. Terms are too long to be used by students.

Eg. analytical chemistry - *vibēdana rasāyana nūl*, Census report - *kula stri purusha bala virutha ayavyaya parimāṇa pattirikai* (A glossary published in 1968 has replaced them, respectively, by *pakuppāyvuvētiyiyal*, *makkaḷ tokai arikkai*).

As a counter-move to this Government-body 'Madras Presidency Tamil Sangham', a private organisation, formed a Committee of Technical terms in 1934, and organised workshops for coining technical terms, in 1935 and a conference in 1936. This committee released a glossary containing 10,000 terms in 1938. Sanskrit and English terms were substituted by suitable Tamil terms. The Government recommended this for use at educational institutions.

Government of Madras Presidency formed yet another committee in 1940, and started publishing glossaries and textbooks from 1947 onwards. A 10 volume Tamil Encyclopedia Project was launched in 1947 and the first volume came out in 1954. This 10 volume Encyclopedia contributed thousands of terms. In view of introducing Tamil as medium of instruction at graduate level, a 'college Tamil committee' was set up in 1959. This committee prepared some glossaries of terms coined on the basis of the following two principles: 1. International terms may be used without change; 2. well-known Tamil terms, with English equivalents in brackets, may also be used. As a result of these principles, the glossaries are filled with English words in Tamil transliteration.

The Government of Sri Lanka formed a department for the development of Singhalese and Tamil in 1955. This department published nearly 50 glossaries in Tamil containing thousands of terms. These glossaries recorded some newly coined terms, besides a number of commonly used terms in Jaffna. Borrowed terms were transliterated without using Grantha script. There seems to be a uniformity in coining the terms but some of the

transliterated terms sound 'odd'. For example: *posuparasu* (phosphorous) *tāvinin kōtpātu* (Darwinism). In Sri Lanka, Tamil is made the medium of instruction at all levels, including professional colleges, where it is used up to the first 4 semesters. Tamil Nadu has not made any attempt so far to teach professional subjects through Tamil.

Terminology-Study has been a major attraction in almost all the World Tamil Conferences. A plea for having an *International Co-ordinating Committee for Scientific Nomenclature in Tamil* made in the 2nd World Tamil Conference (1968) is yet to materialize. During the DLA Conference held at Madurai in 1978, a special session was devoted for a thorough discussion on the terminological works carried out in the Dravidian languages. The participants viewed that as far as technical terms are concerned, clarity is more important than *language-purism*, cognates from other Dravidian sources may freely be utilised and that, the terms used in popular science books should be simpler than those terms used in textbooks and research papers.

A major break-through in the field of terminology is the work being carried out by the Tamil University since its inception in 1981. Prof. V. I. Subramoniam, the first Vice-Chancellor of the University started a *Directorate of Language, Planning and Development* to undertake the project of preparing text-books in medicine and engineering and technical dictionaries. Medical doctors, engineers, linguists, language experts, scientists and media persons took an active part in the projects. Within a short period, the Directorate was able to get 14 medical books and 13 engineering books intended for the first and second year students. A medical glossary with 12,000 terms and an engineering glossary with 13,000 terms collected from 130 source materials, including Sri Lankan sources, were prepared.

A few thousand terms, newly coined by the authors of the above mentioned 27 books are added to this terminology. These terms with other scientific terms were standardized in the seminars and workshops conducted by the University. A *terminology bank* has also started functioning. The Department of scientific Tamil and Tamil development, the successor of the Directorate, has stored 1.5 lakhs of terms in the terminology bank. Of these terms, 75,000 terms, including 10,000 medical terms are standardized so far. They are awaiting publication. A bilingual dictionary of biological terms was also prepared by the department.

Tamil Technical Terms: formation and standardization

So far, the history; now, let us turn to the 'working-table'. Tamil terminological work follows the three basic principles. They are: 1. adoption 2. coinage and 3. borrowing.

1. Adoption: Adopting a term has two aspects:

1. adopting a term as found in written documents (literature, grammar, commentaries, technical works, dictionaries, inscription etc.) or in dialects with or without a formal change. Eg. *valavan* (pilot), *vānaūrti* (aeroplane), *pori* (machine), *maruntu* (medicine), *maruttuvan* (physician), *vērrumai* (case), *tokai* (compound), *vāriyam* (board).
2. adopting a term with semantic expansion, if necessary. Eg. With semantic expansion: *min* 'lightening' > 'electricity'; *urupu* 'case marker' > 'morph'; *turai* 'a part of the river-bank' > 'department'.

A project of collecting and compiling technical terms from ancient sources and from traditional professions such as carpentry, masonry etc. is being undertaken by the department of Scientific Tamil, Tamil University. It is exciting to note that the dictionaries compiled by J. P. Fabricius (1779) and Winslow (1862) have a good number of terms which we created now with much efforts. Example: *nīrilivu* (diabetes), *malakkattu* (constipation), *utarkūru* (anatomy), *cirrunṭi* (refreshment), *cirunr* (urine) (Fabricius), *manṇīral* (spleen) *alarci* (-itis) (Winslow). It will not be wrong, if we assume, that they have not created these terms but collected them from the traditional sources and the people, because of their close contact with the common folk.

2. Coinage: Coining a term on the basis of a concept is better than coining a term on the basis of etymological meanings as suggested by some scholars. For example: 'hypertrophy' (hyper 'above' + trophy 'nourishment') means abnormal enlargement of a body part or organ. In Tamil it is called *mikai valarcci* (more growth) instead of *mikai ūṭṭam* (more feeding), thus showing a cause-effect result, one of the relations existing between concept and term. Hundreds of terms based on concepts are newly coined in Tamil. They may be a single word or a compound or a phrase. While coining the terms, Tamil phonological and grammatical rules are taken into consideration. A number of suffixes (-i, -ar/ār, -nar, -ān, am, -mam, -tal, -ai, -vai, -vu - (k)kai, -(p)pu, -ci, -mai etc) identified and assigned with specific meanings by our grammarians are very useful in coining new terms. Since Tamil is not a language of prefixes, the question of prefixation does not arise here, except in Sanskrit borrowings, such as *anīti*, *akkiramam*, *turatiṣṭam* etc. that have prefixes. The structure of a term is stem + suffix₁ or stem + s₁ + s₂

Stem + S

Eg.	<i>umili</i>	'ejector'	<i>umil</i> + <i>i</i>
	<i>arippu</i>	'erosion'	<i>ari</i> + <i>ppu</i>
	<i>kacivu</i>	'leakage'	<i>kaci</i> + <i>vu</i>

		Stem + S ₁ + S ₂
<i>ceyarkai</i>	'artificial'	<i>cey + al + kai</i>
<i>pārvaiyālar</i>		<i>pār + vai + ālar</i> (<i>alar</i> > <i>āl + ar</i>)
<i>ceyalpātu</i>	'activity'	<i>cey + al + pātu</i>
<i>molīyiyālār</i>	'linguist'	<i>molī + iyal + ār</i>

By adding appropriate **suffixes** to the stems, required terms are coined.

-c, -nar, -ān, -vi, -ālar 'actor' (cf. -or/-er English)

<i>mutukki</i>	'accelerator'	<i>turuvi</i>	'scraper'
<i>ōttunar</i>	'driver'	<i>pēccālar</i>	'speaker'
<i>alippān</i>	'rubber'		

-ār 'a specialist in a subject' (cf. -ist)

<i>molīyiyālār</i>	'linguist'
<i>narampiyālār</i>	'neurologist'

-mam 'state of being'

<i>kūlmam</i>	'colloid'
<i>pāymam</i>	'fluid'
<i>nīrman</i>	'liquid'

-mai 'quality'

<i>nunmai</i>	'texture'
<i>valimai</i>	'strength'

-pu, -am 'action' (cf. -sion/-tion)

<i>arippu</i>	'erosion'
<i>tiripu</i>	'aberration'
<i>mutukkam</i>	'acceleration'

-al/-tal/-kai 'result of' 'act of'

<i>kūttal</i>	'addition'
<i>valaittal</i>	'bending'
<i>celuttukai</i>	'transmission'

In some cases the noun is first verbalised by the addition of a verbalising suffix, such as, -kku/-ērru etc. and then derived from it, a noun by adding a nominalizer: *paṭikamākkam* 'crystallisation'

paṭikam + ākku > *paṭikamākku + am* > *paṭikamākkam*
nīrērram 'hydration'

nīr + ērru > *nīrērru + am* > *nīrērram*

A critical study of the 'suffixation' in technical terms is yet to be done.

Compounds

N + N, V + N, adj + N - Compounds are found, N + N compound having a lead.

Eg.	<i>nitialuvalar</i>	'finance officer'] N + N
	<i>oḷiccērk̄kai</i>	'photo-synthesis'	
	<i>īyantrapporīyiyal</i>	'mechanical engineering'	
	<i>ilu tan̄tu</i>	'draw bar'] V + N
	<i>toṭu mun̄ai</i>	'conduct point'	
	<i>toṭu mun̄ai</i>	'contact point'	
	<i>menporuḷ</i>	'software'] Adj. + N
	<i>vanporuḷ</i>	'hardware'	
	<i>mennoli</i>	'soft sound'	

The equivalents for some of the English terms with prefixes are made as compounds in Tamil.

Eg.	<i>aṭiman̄</i>	'sub-soil'
	<i>akattōl</i>	'endodermis'
	<i>purattōl</i>	'exodermis'
	<i>nun̄uyiriyal</i>	'microbiology'

Prefixes, exo-, endo-, epi-, micro-, hypo-, hyper-, sub-, inter- intra-, bio-, bi- etc., are corresponding to *veḷi/puṛam*, *akam*, *mēl*, *nun̄*, *kīl*, *mikai*, *t,un̄ai/aṭicār*, *iṭi*, *ūtu*, *uyir*, *iru/ir* etc. respectively.

A quick count of the Tamil technical terms shows that compounding is more productive than derivation.

Phrases

Terms with descriptive characters are found as phrases.

Eg.	<i>paltolilnutpappayilakam</i>	'polytechnic'
	<i>aṇuvai cikiccai nōynātal</i>	'clinical surgery'
	<i>makkaḷ takaval toṭar piyal</i>	'mass communication'

3. Borrowings: Borrowing is effected through translation or transliteration. These two mechanisms were effectively used by our grammarians and poets. When translation fails, or unwanted, transliteration is taken up in 2 ways. *tatsama* (as same as) and *tatbhava* (derived from it)

Translations are mostly direct and verbal.

Eg.	<i>tolaikkāci</i>	'television'
	<i>tolaipēci</i>	'telephone'
	<i>nīrvīlcci</i>	'waterfalls'
	<i>uyirtolil nutpam</i>	'bio-technology'

<i>vān-iyarppiyal</i>	‘astro-physics’
<i>uyir-vētiyiyal</i>	‘bio-chemistry’
<i>irakkumati</i>	‘import’
<i>mutal utavi petti</i>	‘first aid box’

Some translations are made through Skt., having it as the source language.

Eg.	radio	<i>ākāsavāṇi ni</i> (Skt.)	<i>vānoli</i> (Ta.)
	oxygen	<i>prāṇavāyu</i> (Skt.)	<i>uyirvali</i> (Ta.)

Acronyms (laser, radar), eponyms (Newton’s law) abbreviations, names of elements, units of measurements, (kilo litre, etc.) and formulae, as a rule, are accepted as they are, without translations.

Transliteration: Pavananthi (13th century A.D.) has laid a few rules for transliterating Sanskrit words into Tamil. Sanskrit aspirated and voiced consonants are substituted by their corresponding unaspirated and unvoiced consonants; the sibilants. *s*, *ś*, *ṣ* by *c*, *y*, *t* etc., initial *h* is dropped, medial *h* is substituted by *k* (*Haran* > *Aran* ‘siva’, *mahā* > *makā* ‘big’). But transliterating European terms need some modifications in the rules. It necessitates to retain Grantha script *j*, *h*, *s*, *ṣ* (Eg. Joule’s law, hydrogen, stethoscope, to be retained as they are, instead of transliterating them as *cūl vili*, *aitracan*, *icutetācukōppu*). It is agreed upon by the terminologists to use the Grantha scripts whenever needed, to avoid ambiguity. This transliteration process also effects a change in the phonemic structure of Tamil, which does not permit *t*, *y*, *r*, *l* initially and *k*, *c*, *t*, *p*, *r* finally. Now we have ‘doctor’ *Yūri kakārin*, *rappar* ‘eraser’, ‘laser’, *irak*, *Gatt oppantam*, *cinimāskōp*, *Yunk* (Jung, the psychoanalyst). Not only the S & T names and terms, but also the names and terms in other social sciences need this change (Eg. *āntan cekkav: kāral mārks*).

The same flexibility is also expected in the case of consonant clusters (Eg. *pasparas*, *ainstic* etc.). The phoneme /f/ is substituted by /*∴p*/ (with the symbol of *āytam* followed by p) *Fax* > *∴pax*. The transliteration process carried out for the last two centuries, has no unified system till date and hence different transliterations for one and the same word are found. It is the need of the hour to have a unified system of transliteration. Of these two processes, translation and transliteration, translation is preferred by terminologists.

Standardization

Technical terms are coined not only in Tamil Nadu, but also in Sri Lanka, Malaysia, Singapore, and other places where a sizeable population of Tamils are living. Since there is no co-ordination among the Tamil terminologists of these countries, different terms are used to denote a particular concept. Even in Tamil Nadu, there are differences. Tamil University made some efforts to standardize nearly 75,000 terms.

Standardization of technical terms on the principles given below is to be taken up to develop terminological work in future.

1. Appropriateness/efficiency

The term to be used should express the concept efficiently.

Eg: Among the terms for anatomy, *manusa-aṅkāti-pātam*, *sariraiyal*, *uṭal amaippiyal*, *uṭaliyal* and *utarkuṇṇi*, the last mentioned term is being standardised.

2. Adaptability

When there are many terms for a single concept, the term which is used mostly, though it is not appropriate, may be accepted because of its common use.

inaṭi, *kūṭṭu* are the equivalents for 'joint' (Eg. Joint director)

Since *kūṭṭu* has more frequency, *inaicceyalar* (joint secretary) is replaced by *kūṭṭu ceyalar*, giving the impression that joint secretary works jointly with the secretary, not 'parallel' to him.

3. Economy

Among the terms, the term which is simple and economical for use, may be preferred. A long term may also be shortened.

Eg. *minṣāravāriyam* *minvāriyam*; *ceyalāḷar*-*ceyalar*

4. Uniformity

To avoid confusion, uniformity is necessary. The suffix, -scope has & *nōkki* & *kāṭṭi* as equivalents. Now *nōkki* is taken as a standard form.

Eg. *nencunōkki* 'stethoscope', *tolainōkki* 'telescope', *nunṇōkki* 'microscope'

In some cases, this uniformity may not be possible. In such situations, one or more terms may be allowed, considering the social consciousness of the people.

Eg. the prefix *anti-* has a few equivalents: *pakai*, *muṇaṇ*, *etirppu*, *olippu*, *etiri* etc.

<i>maṭēriya olippu</i>	'anti malaria'
<i>uyirppakai</i>	'antibiotic'
<i>muṇaṇuṭali</i>	'antibody'
<i>inti etirppu</i>	'anti Hindi'

olippu is not used in '*intietirppu*' because the people do not oppose the language as it is, but they oppose only the imposition of the language, therefore, '*etirppu*' is retained: In *maṭēriya olippu*, the people want to eradicate malaria, the dangerous disease completely and therefore *olippu* is retained.

Piṇa ūrti & *amarar ūrti* refer to 'corpse van', *amarar ūrti* is the form used now because of the people's attitude towards the deceased people.

5. Interdisciplinary attitude

Different subjects may have some common terms, prefixes and suffixes. In this case, when we want to standardize a particular entry, we should have an interdisciplinary approach.

Eg. 'sub' - has two equivalents:

aṭi (*aṭimaṇ nīr* - sub-soil water) (engineering) and
tuṇai (*tuṇai āṭciyar* - sub-collector) (administration).

We have to retain both forms for clarity. ISO's experience in standardizing technical terms will be useful for us.

Conclusion

A brief survey on the terminological activities being carried out at the international, national and regional levels, with special reference to Tamil, is given here. I am also aware of the works going on in other Dravidian languages. To develop terminological studies in our region, we should have, first and foremost, a *Centre for Terminology* to co-ordinate the works going on in the Dravidian languages. DLA may consider this proposal and give proper guidance. We also need bilingual, multilingual dictionaries of technical terms and handbooks outlining the terminological principles.

To make the terminological activities a great success, mother tongue should be given its due place in education, administration, judiciary and mass communication. Let me conclude this talk, quoting from Kural, *Efforts brings fortune's sure increase*²².

Bibliography

- Dhamotharan, A. (Ed.). 1975. *South Asian Digest of Regional writing*, vol. 4. Heidelberg : Uni. Heidelberg.
- Hjelmslev, L. 1961. *Porlegomena to a theory of language*, Madison : University of Wisconsin.
- Macdonell, A. A. (Ed.). 1982. *Vedic Index of names and subjects*. New Delhi: Motilal Banarsidas.
- Nuhman, M. A. (ed). 1992. *Torpatal, moli, navinattuvam*. Colombo: Ministry of Hindu Religion & Culture.
- Pope, G.U. 1984. *The sacred Kural*. New Delhi: Asian Educational Services.
- Sundaram, Rm. (Ed). 1982. *Proceedings of the Seminar on Technical Terms in Tamil* (mimeo). Thanjavur: Tamil University.

Sundaram, Rm. 1983. *Tamilil kalaiccollākka muiyarcikal (Attempts in the formation of technical terms in Tamil)*. *Tamilkkalai-1*, Tanjavur: Tamil University.

Infoterm issues 79 - 93. Vienna: International Information centre for terminology.

International Journal of the Sociology of languages, Vol 23. 1980. The Hague: Mouton.

Proceedings of the seminar on Indian Languages as Media of instruction. 1985. New Delhi: Ministry of Education.

Nannul

Pirayōkavivēkam

Tolkāppiyam

A list of recently published dictionaries on technical terms in Tamil

Dhamotharan G.R. (Ed). *Kalaiccolakarāti*, 3 vol. Coimbatore: Kalaikkattir.

Gnanaprakasam. 1994. *Kalnataivalam* (Dictionary of veterinary science terms). Madras: University of Madras.

Govindarajan, C. 1987. *Kalvettukkalaiccolakarāti* (Dictionary of epigraphical terms). Madurai: Madurai Kamaraj University.

Murthy A. K. 1994. *Ariviyal akarāti* (Dictionary of science). Chidambaram: Manivacakar pathippakam.

Mustafa, M. 1991. *Ariviyal kalaiccol Kalanciyam*, Vol. 1 (Encyclopedia of Tamil Scientific Technical dictionary). Madras: Meera Publication.

-----, 1994. *ibid*, Vol.II

Ramkumar. 1991. *Kanippori akarāti* (Computer Dictionary). Madras: Saivasiddhantha Book Publishing Society.

Rangan, K. 1994. *A glossary of standardised technical terms in linguistics*. Thanjavur: Tamil University.

Sasivalli, C. 1987. *Camayaccollakarāti* (Dictionary of Religious terms). Madras: International Institute of Tamil studies.

Shanmugam, Swami. *Maruthuuvakkalaicorkal* (Dictionary of Medical terms).

Shanmugasubramanian. 1994. *Cattattamil akarāti* (Dictionary of legal terms), Thanjavur: Tamil University.

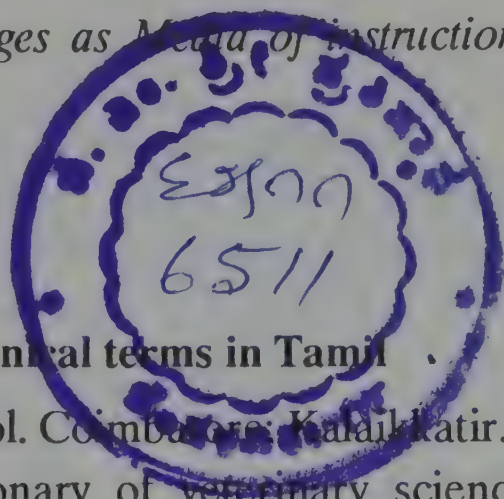
Shanmugasundaram. 1994. *Kālnatai maruttuva kalaicol akarāti* (Dictionary of veterinary science terms). Madras: New Century Book House.

-----, *Glossary of technical terms* (mimeo), Thanjavur: Tamil University.

Glossary of technical terms. Madras: Tamil Nadu Text book society.

Glossary of technical terms. Colombo: Department of Linguistic development, Sri Lanka.

Aṭiccol akarāti. Madras: Director of Tamil Development, Govt. of Tamil Nadu.



FORMATION OF TECHNICAL TERMS IN INDIAN LANGUAGES

G.S. RAO
IGNOU, Delhi

I

Different languages are said to be at different stages of evolution and development. The former is historical and common to all languages. Evolutionary process is more or less purely internal. From one stage of its history, a language evolves into the next stage. There is internal historical change. For example, Sanskrit has a three-way distinction of the number category, i.e. singular, plural and dual but modern Indo-Aryan languages have only singular and plural. Proto-Dravidian has contrast between inclusive and exclusive I person plural pronoun but Kannada has lost the distinction. Telugu, which employed *wāḍu* 'he' and *adi* 'she' without any pejorative connotations up to the time of Tikkana, developed a social contrast between *wāḍu* and *atanu/āyana* (Hemalatha 1988). The English language lost an eighth-case declension of nouns within a short period of three centuries. The developments are system internal. However, some changes may take place due to foreign intervention or influence. The rise of aspirate stops in some Dravidian languages, the creation of a gender contrast in Maria Gondi (Natarajan 1977), the development of inclusive/exclusive contrast in Marathi (Emeneau 1956), etc. may be traced to foreign influences. The greatest influence of an external language, of course, is in the realm of lexicon. Telugu, for example, borrowed extensively from Sanskrit, Persian, English and now Hindi. The second aspect is development of a language due to 'active intervention' of language-independent sources like the government, the academies, the litterateurs or other languages. For example, the State may decide to make certain modifications in the script to suit mechanical devices. Kamal Pasha's edict to change Turkish script from Arabic to Roman in the twenties is a significant example of State intervention. The Academies may set certain standard procedures in the use of a dialect vs. the other dialects or attempt at 'purification' (the Florentine Academy A.D. 1540 for Italian; the French Academy A.D. 1630 the Spanish Academy A.D. 1783, the English Academy A.D. 1712 and so on). The Telugu Academy actively promotes the use of the *coastal dialect* of Telugu

as the standard form for academic purposes. In some cases, men of letters may popularise certain forms, expressions and usages. They even coin words to suit new demands. For example, Narla (as editor of Andhra Jyothi) created and popularised the word *ālīna vidhānam* 'non-alignment' in Telugu. The words *gherāwo* and *dhāma* from Hindi have gained currency in the Telugu newspapers.

II

Let us now try to understand what language development means and how its various mechanisms work. The development of a language is necessitated by diversity of life, economic mobility of the population, and cultural changes in the society. People from a primitive culture developed into a modern urban society through several stages of pastoral, agricultural and industrial societies. Naturally, the language has to meet new demands of the new vocations, cultures and life styles. Earlier, the changes in societies and the development of languages went hand in hand and at a steady pace. The language had enough time to develop new linguistic devices to describe the new phenomena. In Telugu, words like *wadrangi*, *cēbādīsa*, *rampam*, *ulī*, *sutti*, etc. were created in the field of carpentry when this profession developed. Similarly, English has created technical terms related to steam engine when that was discovered in the eighteenth century. Sometimes newly introduced scientific devices trigger off the creation or introduction of new words. The Mughal system of revenue introduced hundreds of words, like *asalu*, *waddi*, *sistu*, *kaulu*, *munsabu*, etc. into Telugu which have become naturalised. The language develops that 'inner accommodation' (Srivastava 1988) to absorb foreign words into its phonological and semantic systems. For instance, English *rail* has become in Telugu *raylu* and developed a plural form *rallu* in consonance with the native system. To avoid homophony sometimes a whole paradigm is imported. See, for example, the two plural forms of:

rule (line)	<i>rūllū</i>
rule (law)	<i>rūlsu</i>

Thus 'ticket' has become naturalised as *ṭiketṭu*, 'receipt' has become *rasīdu*. This kind of naturalisation develops within the system, only if the elite literati do not interfere or when these classes of words enter the folk usage directly (*liggulēṭu* 'regulator', *yaksalēṭaru* 'accelerator') without the medium of the educated class. Thus one can say that the language develops linguistic devices its society needs. Modern technical terms like 'computer, calculator, laser, rocket' do not have any natural moorings in an agricultural society. Or, agricultural terms like *eruwu*, *kalupu*, *sālu*, *nāgali*, etc. do not have any bearing in a pastoral society. The other way also works. The twelve different words for 'snow' in Eskimo, twenty different words for 'fish' in Malayalam, five different words for 'rice' in Telugu and so on have no

immediate relevance for other language speaking societies unless somebody makes it his subject of specialisation.

III

Linguists say that all languages are equal. This is as much true as the cliché 'all men are equal'. Languages are not comparable functionally. A tribal non-literate language like Koya is not functionally equal to a literary language like Telugu. In the same manner, functionally limited Telugu is not equal to English. Of course, this depends on what we use the language for. We want to use the language in order to 'progress', no matter how we define it. If the pastoral man is satisfied with his life and living style, he does not require any other language than his own tribal mother tongue; if a rural agriculturist in Andhra does not want or need improvement in his income or vocation Telugu serves him all right. But people are not content with what they have. They want to change their life. A pastoral man seeks agricultural land; an agriculturist seeks a job in the city; a city man demands higher education; an educated man wants to go to the west, either for higher education or job. Thus man has a constant urge for upward social mobility, vocational diversity and economic upliftment. The aspirations of the people get reflected in the activities and priorities of the government in particular and the society in general.

Individuals, groups and societies want to catch up with the other guy(s). There lies the crunch. These aspirations put enormous demands on the functions of a language. Languages are suddenly used for more purposes and functions than before. In order to make our languages catch up with others we make a quantum leap forward by wholesale transfer or outright creation of new terminology. Nowhere in the history of India did Indian people enjoy the privilege of their mother tongues as the state\educational languages. Exceptions are the Madurai Kingdom of the Naiks, the Vijayanagar Empire of the Rayas, the Holkar Kingdom of Indore, the Rajput Kingdoms of Rajasthan, the Gwalior and Jhansi rulers. There has always been a gap between the language of the masses and that of the masters. This explains partly why there exists a vast functional gap in the linguistic communication. In ancient times, it was Sanskrit, in medieval to pre-modern times, it was Persian and in modern times, it is English which have been used as court languages or languages of learned communication while the vast masses spoke different tongues. Further, due to restrictive practices, literacy was confined to fewer people and later on, foreign invasions disrupted the little vertical inflow of knowledge that was in vogue. Thus, horizontal communication and spread of knowledge were confined to oral transmission. In the developed nations, on the other hand, growth of knowledge and new artefacts of humans (such as evident from Industrial Revolution) and development of language went on hand-in-hand.

Occasionally we come across English application forms translated into Hindi or Telugu which are incomprehensible to the native speaker. There is a linguistic gap between what we can do to the language by way of translation and what the language can do for us in terms of comprehension. Language zealots should understand the limitations of their mother tongues in different domains and functions as well as the status of the people in the nation. Like humans, languages also need acclimatisation in new environment. We have a built-in parochial notion that our language is as sweet and expressive as any other language, if not more. When the literature/information in new fields is multiplying by leaps and bounds each year, it is just not possible to translate all of it into our languages instantly, notwithstanding computers. The infrastructure behind each such invasion of knowledge is not created to absorb it steadily and naturally. For example, there is a knowledge gap not only in science and technology but also in law and social sciences. One may perhaps translate literature into our languages without much difficulty because literature revolves around human emotions, hopes and conflicts which are universal. But man-made institutions and mechanisms, like atomic power, thermodynamics, laser printers, aeronautical engines, oil drilling, genetic engineering, semiconductivity, chip and so on, make a difference. There is a gradualness in the progress of these artefacts in other societies whereas in ours we want to leap-frog into an alien world without the infrastructure. There is nothing wrong in borrowing new technology but only in its transformation and absorption. We need to temper our emotions with what is possible and what is in the best interests of our society. Technical knowledge cannot be assimilated into our languages instantaneously and naturally. Modern computer devices provide facilities to convert one graphic input into another graphic output instantaneously but not the linguistic content. There is also another dimension to it, i.e. the competition in job market. People of different languages compete for the same national job cake. Most of our jobs are non-skilled oriented, but the skill-oriented ones pay more.

It is in this context that the use of language has to be understood. To attain the required skill level, a candidate has to depend on his native language as well as a knowledge (information)-rich language like English. Language chauvinists may say that such arguments smack of colonial mentality. But theirs is slogan-mongering intended to divert the attention. Mother-tongue education, like mother's milk, is most desirable, but when mother's milk is not adequate, there is nothing wrong in taking supplementary foods. We do that in technology. When indigenous mechanisms are found to be inadequate to compete in the national or international markets, we fall back on import of technology. Similarly, to supplement our linguistic repertoire we must not shy away from mastering the other language or borrowing the other language devices to fit them into our system harmoniously. If the competition is confined to the same-language people or people with same

skill levels, one need not worry but our country is multilingual and multicultural, and the competitions are national. Hence uniform standards are expected irrespective of language backgrounds of the candidates. We cannot afford to create any job quotas on the basis of language. Since that is the case either we have to develop our language resources or acquire other languages to be able to compete with confidence.

IV

The subject of this paper is the first of the two propositions, i.e. development of natural linguistic devices in our languages by simplifying the language and enriching the concept formation. Language planners say that the 'development' of a language involves:

- | | |
|-------------------------|--|
| (a) Intellectualisation | Production of professional literature. |
| (b) Standardisation | Rise of uniform code accessible to all people. |
| (c) Modernisation | Expansion of the code to meet modern needs and mechanical devices. |

We are concerned here with the third component, modernisation which involves translation, borrowing, coinage, script reform, computerisation, inter-translatability and so on. Foreign words have to be naturally acclimatised into the native system of grammar (phonology/morphology) and develop immediate comprehension in the native speakers. There are three types of devices: (a) translation 'atom' : *aṇuwu*, 'chatter box' : *māṭala mūtā* (b) transliteration 'radio' : *rēḍiyo*, 'television' : *ṭelewijaṇu*, 'robot' : *rōbātu* (c) descriptive creation 'carbon dioxide' : *boggu pulusu gāli*, 'photosynthesis' : *kiraṇajanya samyōga kriya*. There are different stages in the development and absorption of these devices into the language. Linguists, educationists and writers have been using one or the other devices to enrich and expand the expressive power of the language. There are three objectives in resorting to these devices: linguistic simplicity, conceptual clarity and easy accessibility and spread. Many a time, a particular use is floated for currency, but only time decides whether it becomes socially acceptable. For example, in Telugu there is only one word *mancu* for 'snow, fog'. On the basis of the *mancu* we have *mancu gaḍḍa* 'ice' as well as *aisu gaḍḍa* (a loan calque with English 'ice') in competition. Only time can tell which one will become standardised. The creation of *pindī mancu* or *muggu mancu* (descriptively adequate and phonetically natural but conceptually unreal) as opposed to *poga mancu* did not gain currency. These processes have different levels or degrees of acceptability based on currency, frequency and naturalness within the system. Above all, there should be a need. For example, Telugu newspapers use foreign elements indiscriminately for purposes of not only plain need but also for pun or sarcasm. For example:

kotta kā mpitituw pustakā la konugōlu

kyāṣu byāgu dōpidi

ṭī carla pōṣṭulu bhartīce yandi

(headlines in *Eenadu*)

Innovation does not always lead to progress or assimilation. Secondly, a device or a form is register-bound. In a particular domain, some words are acceptable while others are not. For example, Telugu newspapers are using *spandincu* in the sense of 'react' or 'respond' but in speech, it has not gained currency. Similarly, words like *minjumale*, *āna*, *bhōjyanu*, etc. are typically confined to revenue records. It is not that every technical word should be known to every speaker of the language, but that any speaker of this language must recognise it as a word belonging to his language and be able to find the meaning in a standard dictionary and, use it, if necessary. Some Hindi words like *kharīf*, *rabi*, *sarpanc*, *kabja* are increasingly being used in Telugu newspapers because of the rise of a new generation of professionals and writers. These people are generally familiar with Hindi and English and they are conditioned by (a) uniform standards of technical words across languages and (b) frequent use by the media in the formal programmes. Some words have, of course, been in use since quite a long time either because the early writers of Telugu text books created descriptive phrases with internal sources or coinages with the help of Sanskrit (*lamba kōṇam*, *trībhujam*, *natrajanī*, *prāṇa wāyuwu* etc.) or they have been borrowed into the language at the grassroots level (*raylu*, *paysa*, *nagadu*, *khajāna* etc.). Words from other languages have different degrees of acceptability and survival. Each such import can be characterised, on the basis of past history, as belonging to one of the following types:

1. Phonologically odd but conceptually acceptable

medullā 'medulla'

2. Phonologically and tonally natural but conceptually alien

silājamu 'water plant'

silūndramu 'icicle'

3. Phonologically natural but tactically odd

duwōḍinam 'duodenum'

4. Conceptually accessible but phonologically odd

ṭikkēṭṭu 'ticket'

bakkēṭṭu 'bucket'

5. Descriptively adequate but formally inadequate

banti ginne kīlu 'shoulder joint'

6. Popularly accessible but linguistically defective

srikusuma *Sr Kusuma* (a rice variety)

7. Semantically and phonologically acceptable but registrally restrictive

bīja gaṇitam 'algebra'

bīja lipi 'secret script'

8. Conceptually desirable but phonologically alien

gherāwō 'forcible confinement'

9. Conceptually acceptable but linguistically superfluous

khārif *dālwa*

rabīśarw

daskatu santakam cēwrālu

10. Conceptually adequate but comprehension-wise distant/formal

byhāwa garbhitam 'pregnant with thought'

We can go on to characterise the technical words already in use in several more ways. The point is that these forms are either adequate or inadequate in different contexts and times. The language receives a word, when it is first used and the speakers popularise it, if it is (a) essential, i.e. it fills a semantic need (b) meaningful, appropriate and suitable within the existing classification of things. New words take some time to take roots. It depends more on the frequency of use than anything that the writer wants done. Different writers use different forms until one becomes well-defined in meaning or well established in usage. Dependency on total Sanskritisation or outright transliteration of English terms proves dysfunctional and fruitless. Use of more than one language, particularly English and mother tongue in the classrooms will facilitate the spread of forms both orally and in writing. Specialists in the field must strive to produce popular materials in the mother tongue so that their endeavours result in the standardisation of terms. The oddity or imbalance or lack of precision or phonetic resistance need not bother the writers. They should concentrate more on expressing the concepts to their audience. Leading journals for scientific writing, (like *Telugu*, *Journal of Telugu Studies*, *Annadata* etc. in Telugu) should be studied carefully to obtain the frequency count, acceptability rate and standardisation norm of new and burgeoning technical terminology. Ultimately it is the function and frequency that decide the fate of newly coined or borrowed words in a language.

V

Intertranslatability has been introduced as a criterion of language modernisation by Ferguson. He particularly has in mind one of the European languages as the base and translatability into one of the languages of the developing nations as the recipient. Some Indians react to it as a form of linguistic imperialism. But we should not be touchy when academic issues are involved. It is not that anything written in Indian languages can be translated into English easily and that only translation from English into Indian languages is fraught with difficulties. For example, it is extremely difficult to translate the following Telugu forms into English:

waddantē dabbu

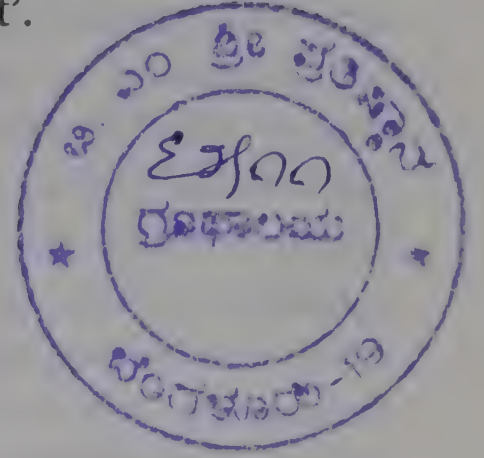
- a) 'Money, if you say no'.
- b) 'Money, money, money, whether you want it or not'.
- c) 'More money, even if you reject'.
- d) 'The more you reject money, the more you get'.

nuwwu ennō kodukuwi?

- a) which no. son are you?
- b) How 'manieth' son are you?
- c) What is your number among the sons?

wadina

- a) sister-in-law
- b) cross-cousin sister
- c) wife's elder sister



Thus it is not easy to translate certain expressions or technical words into other languages because these relate to the inner linguistic/semantic properties of the language. Translation from English into Indian languages must be done meaningfully and idiomatically. In terms of the desired level of standardisation, the writer has to forgo certain features.

VI

Four principles have been evolved by the Commission for Scientific and Technical Terms for developing scientific and technical terms in Indian languages, more particularly in Hindi (S. B. Singh 1992). They are

1. International terms should be adopted as such in their current English form transliterated in Indian languages according to their genius.
2. Indigenous terms which are already in vogue for certain English technical terms should be retained.
3. Where necessary, terms should be borrowed from regional languages.
4. New coinages should be based on Sanskrit.

This is a broad categorisation of principles for guidance, not for adoption as articles of law, for there are contradictions and limitations in them. For example, if technical terms from English are transliterated in Indian languages, they may sometimes become unrecognisable to non-native speakers (eg. Punjabi *sapers* 'spares'; Telugu *āsupatri* 'hospital'; Hindi *afsar* 'officer' etc.) which renders them ineffective for universality of usage. Similarly, use of indigenous terms for certain English words poses other problems. It fails the uniform standards test and secondly indigenous words tend to get replaced at a later stage by a more precise coinage or a standard

transliteration. For example, in Telugu *boggu pulusu gali* 'carbon-di-oxide' is replaced by *kārbān diayaksaidu*; *natrajani* 'nitrogen' by *naytrōjan* and so on. Thirdly when words from regional languages are adopted for Pan Indic use, these become as foreign to the other language speakers as the English ones are. And precisely for this reason such inflow is much too scarce. Fourthly, use of Sanskrit as the base for new coinages has its own limitations. For instance wild creations are made if one is so restricted. Raghuvira's Sanskritised coinages largely remain on paper as they are not socially acceptable by scholars in the field. Here also certain registers are more easily rendered through other means. For example, many words in the realm of revenue and land are Persian based and popular in different Indian languages. The above four principles have to be modified suitably when one thinks of developing technical and scientific words in the individual Indian languages. Pan-Indic standardisation of technical terms may be ideal but it is a myth. Basically, there is no intellectual mobility across Indian languages horizontally. Teachers, scholars, and opinion makers who are equally proficient in two Indian languages in writing as well as speech are rare indeed. What we have is vertical mobility from one's own native language to English for all academic and literary communication. This in fact enables percolation of knowledge downwards in one's own language, across regional communication within the country and transnational communication across the countries. The functional domain of English in India and all over the world is quantitatively and qualitatively so wide-spread that for any Indian communication from mother-tongue to English and vice versa becomes vital.

VII

The introduction and promotion of technical terminology into Indian languages involve both external intervention as well as internal adaptability. Due to socio-cultural factors many State governments have introduced Indian languages as media of education up to the graduate level, if not higher. Tremendous efforts are being made by writers, editors and linguists to formulate norms and mechanisms for introducing the terminology into our languages. Is there a hierarchy of linguistic mechanisms? Yes, there is one. As we survey the history, we find the mechanisms in the following order:

a) Sanskrit tatsamas

<i>bhūgōḷam</i>	'geography'
<i>udajani</i>	'hydrogen'
<i>mūtra pinḍam</i>	'kidney'
<i>wāṇijyamandali</i>	'Chamber of Commerce'
<i>drawyōlbanam</i>	'inflation'

b) Sanskrit tadbhavas

<i>kām cōr</i>	'work evader' (Hindi)
<i>khēl gaon</i>	'games village' (Hindi)

<i>nasbandi</i>	'sterilisation' (Hindi)
<i>cadara</i>	'square'
<i>majjānam</i>	'afternoon'
<i>nada mantrapu siri</i>	'nouveau riche'
<i>candamāma</i>	'moon' (Telugu) etc.

c) Transliteration or direct borrowing

<i>bāt rūm</i>	'bathroom'
<i>jenarētar</i>	'generator'
<i>ḍayātingu</i>	'dieting'
<i>lāborētari</i>	'laboratory'
<i>jindābād</i>	'hail'
<i>ābōru</i>	'prestige'
<i>ābkāri</i>	'tax'

d) Calques (loan translations)

<i>dōma tera</i>	'mosquito net'
<i>rawwala danda</i>	'diamond necklace'

e) Native creations

<i>ūpiri tittulu</i>	'lungs'
<i>kuttupani</i>	'tailoring'
<i>kattubā nisa</i>	'bonded labour'
<i>pillapēgu</i>	'fallopian tube'
<i>ontettu pōkada</i>	'sectarianism'

f) Mixed compounds (half-native and half-foreign elements)

<i>raylu bandi</i>	'train'
<i>rāca koluwu</i>	'court service'
<i>sonta pani</i>	'one's own work'
<i>puttina rōju</i>	'birthday'
<i>kula bhrasṭuḍu</i>	'black sheep of the family'
<i>gāli gōpuram</i>	'temple tower'

VIII

There are four stages in the development of technical words a) *Entry* b) *Frequency* c) *Spread* and d) *Acceptability*. The six types of mechanisms given earlier have different histories between a) and d). Though the six types are hierarchical in that order in terms of Entry and Frequency, they have reverse hierarchy in terms of Spread and Acceptability. It is but natural that the native creations have greater comprehension properties than translations or loans. Transliterated forms have greater accessibility and adaptability than translations because of need. Newspapers hasten this process. Mixed forms have greater acceptability than translations or transliterations because part of the element is already familiar. Sometimes

English words have become more common than the native words *ṭamū* vs. *poddu*; some English words are more common than their Sanskritised translations *asembli* vs. *saciwālayam*; sometimes educated people use English words while the common people use native phrases *fuṭpāt* vs. *kāli bāṭa*. Some English words carry greater precision or authenticity, *sōṣaliyam* vs. *sāmya-wādam*.

As levels of education or acquisition of specialised knowledge increases, so do the different processes of word incorporation.

<i>School Education</i>	<i>College Education</i>	<i>Higher Education</i>
descriptive terms, tadbhavas	descriptive terms, tadbhavas, tatsamas, transliterations	descriptive terms, tadbhavas, tatsamas, transliterations, borrowings

In other words, the functional load imposed on native languages necessarily leads to expansion of the lexicon to meet new demands. Whether natural or not, it is inevitable and imminent. Writers intuitively arrive at the acceptability of a word and use it. The derivational potential of a root word is an important factor in its popularity. For example, in Telugu, *dūra vidya* is used as an equivalent of Distance Education (Satyanarayana and Sesharatnam 1989) as it fits well with the related members of the cognitive paradigm *dūra darsini*, *dūra wāṇi*. However, it is about time to use quantitative measures to judge the naturalisation process in any language. Research studies must be undertaken to study the favoured processes of word formation, phrase creation, authenticity of translation and transliteration. Since most of our technical terminology comes from English, we must face it squarely. Earlier writers have depended (they do even today) on Sanskrit since it is an intellectual forbear or mainstay of Indian languages. But in terms of comprehension, uniformity of technical usage and future demands, one must seriously consider direct import of concepts (and words) from English, bypassing Sanskrit. This would make the journey to knowledge a one-step endeavour rather than a two-step one. We must ponder on the following issues.

1. *Acceptability*: What is acceptability? Are the writers, the readers, the newspapers or the academy responsible for creating standards of acceptability? Independent use of words by more than one factor is an important criterion in this regard.
2. *Frequency of use*: How do we decide? The researchers should undertake the task of identifying a set of words and study their frequency in the journals, newspapers, radio, T.V., cinema etc.

3. *Comprehension*: The words and their possible substitutes should be tested for their comprehension among different classes of people.
4. *Standardisation*: Are these words used in some meaning in other languages? This is very important, and it must be considered before new coinages are adopted. Preference should be given to English adaptations over quaint Sanskrit formations.
5. *Technical precision*: Does the word give exactly the desired meaning? Should *pannu* and *sunkam* be used as synonymous terms or is there a distinction like in English 'tax' and 'duty'? Is *sama tulāhāram* equivalent to 'balanced diet'? Which one among - *bolli*, *sōbi*, *tella poda* - is the technical equivalent of 'leucodermia'?
6. *Tonal and phonetic fit*: Do the words fit into the Telugu system in a natural way? Sometimes phonetic and graphic modifications have to be done to create the tonal quality befitting the genius of a language: For eg. Telugu 'hospital' : *ā supatri*.
7. *Semantic transfer*: Ordinary words have to be endowed with different senses to meet the conceptual needs. In Telugu words, like *āradi*, *kattadi*, *wattidi* can be, and sometimes are, used to mean 'harass, restrict, pressure'. Writers should use them more frequently to popularise the different shades of meaning and contextualisation.
8. *Prestige*: Some words have greater prestige than others, either because of registral demands or because of diarchaic nature of the existing native word. For example Telugu

hāram vs. *danda*

ṭifinu vs. *upāhāram/nāṣṭa*

9. *Multiple words*: Initially words are formed with or are borrowed from more than one linguistic source. We must find out which one gains currency in course of time.

For example, which of the three-*gunde pōṭu*, *hārṭueṭāku*, *hrudrōgam* - gains currency in which context and in what meaning and by whom? These must be studied and tested.

10. *Verbal formations*: Many times English words are directly borrowed into Telugu and combined with Telugu auxiliary:

rijaynu cēyu 'to resign'

strayku nadupu 'to strike'

fīlawu 'to feel'

IX

In conclusion, we can say that a body of scholars should be set up to study the current usage of technical terms in the textbooks because they

represent 'deliberate art' and newspapers because they represent *history in a hurry* to ascertain the authenticity, frequency, acceptability and standardisation. Both compel the writers to produce words and phrases to meet new demands and concepts. Further, some agency of the Government or a University should take up publication of this data to codify and standardise items for continued use and popularisation.

Bibliography

Emeneau, M. B. 1956. 'India as a Linguistic Area'. *Language*, 32.

Ferguson, Charles A. 1979. 'Language Planning Patterns'. *Language*.

Hemalatha, C. 1988. Intermediate Telugu. M Phil dissertation. Hyderabad: Telugu University.

Natarajan, G. V. 1977. 'Adjectival Concord in Gondi'. *Indian Linguistics*, 38.

Satyanarayana, P and C. Sesharatnam. 1989. *Dura Widya*. Hyderabad: Hab-siguda.

Singh, Suraj Bhan.1992. 'Language Standardisation: An Appraisal of Indian Terminology' (memo, Central Hindi Institute, Delhi).

Srivastava, R. N. 1980. (In personal communication).

COINING OF SCIENTIFIC AND TECHNICAL TERMINOLOGY

C.G. RAMACHANDRAN NAIR

Let me begin by saying that we have a multi-faceted and rather complex problem here. The problem is also not confined to any particular language or language family; it has in fact a universal dimension.

1. A Multi-faceted Problem

The coining of scientific and technical (S&T) terminology¹ is a complex and multi-faceted problem. Let me explain.

1.1 The requirements vary from one branch of science to another. Thus the requirements for mathematics, physics, chemistry, botany, zoology, statistics, astronomy, computer science, engineering, medicine etc. are very different from one another. Even for the same main discipline, for example, chemistry, the requirements vary for sub-disciplines such as physical, inorganic, organic, bio, analytical etc. chemistries! One could go further - thus, in analytical chemistry, special situations arise for specialised areas such as polarography, chromatography, spectroscopy and so on. Even in a specialised area, there are superspecialisations. Thus in spectroscopy, the superspecialisation areas are mainly ultraviolet, visible, infrared, microwave, nuclear magnetic resonance etc. And then we have super-super specialisations. One could go on and on. The task of coining S&T terminology in all these areas is staggering indeed!

1.2 Then we have the problem of "period terminologies". The terminology used for chemistry in the 18th century partly becomes outdated in the 19th century, that of the 19th century gets partly obsolete in the 20th century and so on. It is not only the words and phrases which undergo changes or get replaced; new acronyms also appear, so much so that even a modern day specialist in one sub-area of a discipline such as chemistry (Eg. transition metal chemistry) will have great difficulty in understanding the terminology and phraseology at a conference in another sub-area (say, organic photochemistry)!

1 Endowment Lecture delivered at the 23rd All India Conference of Dravidian Linguists held at Trivandrum during 22-24 June, 1995.

2. The universality of the problem

By saying that the problem is universal, what I mean is that the problem exists in all languages, including English, as well as modern European languages such as German, French, Russian, Italian etc. Of course, the problem is much less acute for the European languages than for oriental (Asiatic) or African languages. This is merely a historical accident; for modern S & T developed in Europe during the 17th century A.D. and it was confined all along to Europe for more than three centuries before it really spread widely to other areas inhabited by ethnic non-European peoples. It is interesting to note in this connection that there was a time (during the 19th century), when both German and French languages had a richer S & T vocabulary than English! The great French chemist Wurtz (A.D. 1817-1884) once thundered *La Chemie est une science francaise ! Elle a été fondée par Antoine Lavoisier !* [Chemistry is a French science! It was founded by Antoine Lavoisier!] In those days, knowledge of German and French was considered to be an additional qualification for English scientists. [Now, of course, knowledge of English is a highly prized skill among European scientists!]

3. S & T Vocabulary and Terminology in Ancient India

Earlier I mentioned that modern S & T developed in Europe in the 17th, 18th & 19th centuries, the pioneers being Galileo (A.D. 1564-1642), Newton (A.D. 1642-1727), Dalton (A.D. 1766-1844), Lavoisier (A.D. 1743-1794), Kepler (A.D. 1571-1630), Mendel (A.D. 1822-1884), Darwin (A.D. 1809-1882) and others. I am not forgetting savants like Copernicus (A.D. 1473-1543) or martyrs for the cause of science such as Bruno (A.D. 1548-1600) or, for that matter, the giants of a much earlier era such as Aristotle (384-322 B.C.) or Democritus (460-370 B.C.). However, I just want to draw a line somewhere and wish to go along with the general view accepted by historians of science that the era of modern S & T in Europe began with Newton.

It is therefore, pertinent to note that the tenets of modern science were known to ancient Indians, several centuries before Newton's time! Thus *Aryabhatta* (born A.D. 476) preceded Copernicus by nearly a thousand years in stating that it is the earth which revolves around the sun and not vice-versa. The point I am trying to indicate is that something very similar to modern science had flourished in ancient India about one thousand years earlier than its appearance and growth in Europe. How did then these ancient Indians go about expressing scientific truth? What language was their medium? How did they coin S & T terminology during that by gone era?

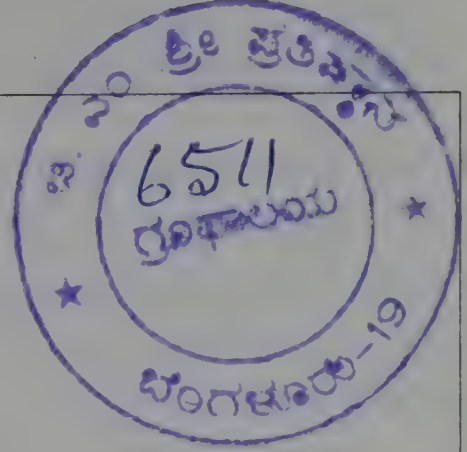
The answers are obvious. Their medium of expression was the Sanskrit language which had attained the pinnacle of perfection at a time

when most other languages remained primitive vehicles of expression. And there was no difficulty in coining S & T terminology in Sanskrit.

Let me cite some specific examples. In the Yajurveda, we see nomenclatures for big numbers as follows:

Table 1

<i>Sahasra</i>	10^3 (thousand)
<i>Ayuta</i>	10^4 (ten thousand)
<i>Niyuta</i>	10^5 (lakh)
<i>Prayuta</i>	10^6 (million)
<i>Arbuta</i>	10^7 (crore)
<i>Nyarbuta</i>	10^8 (hundred million)
<i>Samudra</i>	10^9 (thousand million = billion)
<i>Madhya</i>	10^{10} (ten billion)
<i>Anta</i>	10^{11} (hundred billion)
<i>Parardha</i>	10^{12} (thousand billion = trillion)



Remember that these terminologies existed (in Vedic sanskrit) during the Vedic times!

Pythagoras theorem was anticipated by Boudhayana (600-500 B.C.) who stated that the square of the diagonal of a rectangle is equal to the sum of the squares of its sides. The *Boudhyana Sutravakya* is *ārgha caturaśrasyākṣaṇa yā rajju: pārśvamānī tiryakmānīcayat prthagbh būtekuru nāstadubhayam karōti*.

The statement of Pythagoras is almost identical, i.e. the square of the hypotenuse of a right angled triangle is equal to the sum of the squares of its other two sides. (The diagonal of the rectangle is identical with the hypotenuse of the right angled triangle segments).

Sanskrit language was an effective medium for coining technologies for chemistry and medicine too. Thus in *Sushruta Samhita*, we see the following terms.

Table 2

<i>kamsya</i>	bronze
<i>loha</i>	iron
<i>rajata</i>	silver
<i>suvarna</i>	gold
<i>srotanjana</i>	antimony sulphide
<i>tuvari</i>	alum
<i>kshara</i>	alkali
<i>amla</i>	acid

In ancient India, S & T terminology was by no means restricted to Sanskrit. Other languages were also rich in this respect. Thus in ancient *Tamil Siddhavaidya classics* (6th and 7th centuries A.D.), repeated references are seen about *Muppu* which is a combination of three *uppu* (salts), i.e. *pūnīru* (some carbonate ores) + *kalluppu* (rock salt, sodium chloride mostly) + *andakkal* (perhaps calcium carbonate).

4. S & T terminology in Modern European Languages

With the advent (or shall I say, re-birth!) of modern S & T in Europe, modern European languages developed their own S & T terminology. In the initial phase, both German and French languages were richer in this respect than English. However, commensurate with the expansion of the British Empire and the elevation of English as No. 1 international language, it was only natural that the English language surpassed all other languages as a medium for S & T expression. The exponential growth of S & T terminology also led to a riotous efflorescence of S & T terminology in the English language.

How did the other European languages react to this phenomenon? They, for the most part, accepted the English language terminology with minor cosmetic surgery to make it compatible to the special genius of each language. The following table will illustrate my point.

Table 3

English	German	French
Thermodynamics	Thermodynamik	Thermodynamique
Mossbauer effect	Mössbauereffekt	Effet Mossbauer
Resonance	Resonanz	Resonance
Quantum Mechanics	Quantenmechanik	Mecanique Quantique
Laser	Laser	Laser
Spectra	Spektra	Spectre
Nuclear Physics	Kernphysik	Physique nucleaire

One must note here that interconversion and adaptation of S & T terminology in these cases is facilitated by a close linguistic family relationship and a commonality based on the source language like Latin and Greek.

It may be mentioned here that in many superspecialisations, such as computer science, robotics, artificial intelligence etc., the modern tendency in French, German, Italian etc. is to accept the English S & T jargon and terminology as such, in toto, without even minor modifications!

5. Modern S & T Terminology in Indian Languages

After a golden period, India slumped into a long period of lacklustre centuries marked by a cultural decline in most areas including S & T. This was a consequence of foreign invasions, lack of unity among people and also the vicissitudes of history. As a result, India had to borrow S & T from countries in Europe from the 18th century onwards. The West became the cradle of the new-born S & T and the East had to borrow S & T from the West.

During the dark ages of Indian S & T, most of the scholastic S & T traditions also died, although some remnants and fragments of S & T remained, thanks to the unbroken tradition among the craftsmen and skilled artisans. Still, the old S & T terminology had become obsolete and unintelligible. Thus arose the need for a new S & T terminology in India.

The realisation of this need at governmental level in India led to the establishment of a commission for S & T terminology under the ministry of education in 1961. This commission prepared a "Science Vocabulary" (Vigyan Sabdavalī) in Hindi in 1964. The leitmotif was to accept common Hindi words wherever they could be easily understood, to use Sanskrit - derived words in most other cases and to use transliterated English words as sparingly as possible. In addition to establishing an official S & T vocabulary, efforts were also made to get technical and scientific books in Hindi. Soon, the same strategy was also extended to all the regional languages.

The presidential order in this context promulgated in 1960 required that internationally accepted terminology may be altered only minimally, but that the derived words may be Indianised. The vocabularies prepared by the commission contained accordingly about 10% of its terminology directly transliterated from English, whereas about 80% of the words were derived from Sanskrit. The remaining 10% were either pure Hindi words or hybrid ones. The commission felt that such a policy may also be suitable for the regional languages.

6. The activities of the Kerala State Institute of Languages

It was in this context that the State Institute of Languages (Kerala Bhasha Institute) was set up in Trivandrum in 1968 under the able stewardship of its first director, the learned scholar N.V. Krishna Varier. Under the pioneering efforts of N.V. (as he was affectionately called and is remembered), the "Vijnanasabdavalī" was prepared and published in 1969. This was a 2 - volume publication. A pragmatic policy was followed by the Kerala State Institute of Languages, as follows:

- a. Retain the English words adopted by the commission

- b. Retain most of the Sanskrit-based words, omitting only the very few ones which have acquired different connotations in Malayalam through usage.
- c. Avoid the pure Hindi words and use Malayalam words instead.

The Kerala State Institute of Languages (SIL), also followed the specific suggestions of the commission. They are:

- a. Retain the English names of elements, compounds, weights, measures, units and proper-name-based words.
- b. Retain the Latin nomenclatures used in life sciences.
- c. Retain the symbols and formulae.
- d. Adopt the well-known words (Eg. radio, electron, petrol) as such.
- e. Use Sanskrit words in the national vocabulary (prepared by the commission) wherever possible.
- f. Use Malayalam words wherever possible.

7. A critique of the Science Glossary (Vijnana Sabdavalī) prepared by the SIL

There is no doubt that the pioneering efforts of SIL, Kerala, deserve the highest commendation and praise. It must specially be appreciated that, in order to utilise the Government of India grants before the deadline, they succeeded in bringing out the first edition in 1969, within 14 months of its establishment! This was a real record!

Some of the excellent terminologies developed by the SIL have been eagerly accepted by students, teachers, researchers, scientists, technologists and journalists. Examples of the terms which have got wide acceptance are the following:

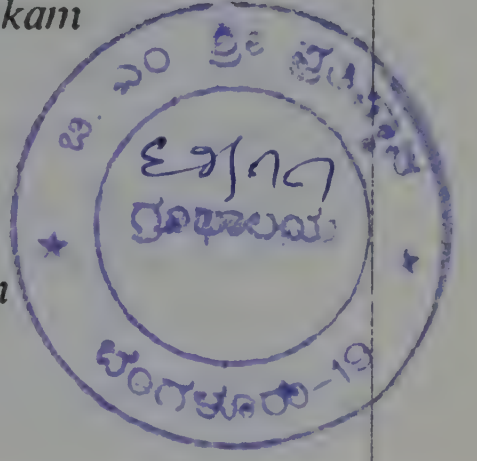
Table 4

acid	<i>aṁḷam</i>
alkali	<i>kṣāram</i>
boiling point	<i>tiḷanila</i>
crystal	<i>kriṣṭal</i>
diameter	<i>vyāsam</i>
encumbrance	<i>bādhya</i>
entropy	<i>entrōppi</i>
equation	<i>samīkaraṇam, samavākyam</i>
filtration	<i>arikkal</i>
graph	<i>grāph</i>
low tide	<i>vēliyirakkam</i>
meson	<i>mesōṇ</i>
number	<i>samkhyā</i>
plasma	<i>plāśma</i>
reflection	<i>pratiphalanam</i>
ultrasonic	<i>ulṭrā sōṇikam</i>

On the contrary, there are terms which have not been fully accepted by the scientists; Eg.

Table 5

diamagnetism	<i>pratikāntakata</i>
differentiation	<i>avakalanam</i>
emission	<i>utsarjanam</i>
equilibrium constant	<i>santulana sthirāṅkam</i>
fermentation	<i>kinvanam</i>
indicator	<i>sūcakam</i>
lubrication	<i>snēhanam</i>
mesomerism	<i>mesōmerism</i>
nonaqueous solution	<i>ajālīya vilayanam</i>
propeller	<i>nōtakam</i>
scalar	<i>adiśam</i>
ultrasonic	<i>pārasvanikam</i>



There are also words which have more or less been practically rejected by the scientists and technologists. Eg.

Table 6

dialysis	<i>apōhanam</i>
evaluation	<i>mūlyāṅkanam</i>
fleximeter	<i>namyatāmāpi</i>
graph	<i>ālēkhanam</i>
inflexion	<i>natiparivartanam</i>
linear harmonic oscillator	<i>rēhīya āvartidōlakam</i>
optical activity	<i>dhrūvaṇa ghūṇata</i>
reflux	<i>paścavāhanam</i>
screening constant	<i>āvaraṇa sthirāṅkam</i>
three-phase current	<i>trikaladhāra</i>

An examination of table 4,5 and 6 will reveal certain features. The SIL gives alternatives in many cases. In general, the transliterated word has been better accepted than the translated Sanskritised word. Thus *altrāsōṇikam* is better accepted by the scientists than *pārasvanikam*; *grāph* is decidedly better than *ālēkham* and so on.

Table 6, in many cases, gives words which are not accepted. Thus *natiparivartanam* is much too mouthful a substitute for inflection and *apōhanam* is, I venture to say, a monstrosity of a word projected to replace "dialysis". One wonders what is the harm in transliterating words such as dialysis and inflexion!

8. Is not transliteration a better policy?

I am now going to put forward some of my personal views on the coining of S & T terminology in Indian languages, and especially in Dravidian languages. I believe that primacy should be given to transliteration wherever possible. The advantages are:

1. The terms will be universally understood.
2. A person whose medium of instruction is the mother tongue will have easier access to S & T literature in English, if during his studies through his mother tongue he is already familiar with transliterated terms.
3. Practitioners of S & T will be better able to communicate with each other even across the laboratory work bench, if they use S & T common terminology transliterated into their languages.
4. Such a scheme is more compatible with the universality of science.

Let me again take some specific examples. Why choose the forbidding term *apōhanam* for dialysis; why not use *dayālisīs*? The word *lūbriēṣan* would be more familiar to mechanics than *snēhanam*, I guess. Are'nt *termōmūrṛar*, *spīdōmūrṛar*, *vōlṭtmūrṛar* etc., more easily understandable than *tāpamāpini*, *vēgamāpini* and *vōlṭṭatāpamāpini* etc.? And I dare say that not only doctors but also patients would be more comfortable with *sr̥retascōppu* rather than with *spandamāpini*!

Consider the two following paragraphs in Malayalam.

(A) Using official, mostly Sanskritised terminology

1. *Sahasamyōjita anukkalile kaksakanṇalute jyāmitiyilulla vyatyāsam nimittam ī jyāmitiye atisthānamākki sahasamyōjaka trijyaye vyavaharikkēntatuntū. Udāharanamāyi, dhārālam mūlakanṇalute ghaṭanakalil nālu bandhita anukkalulla ghaṭanakal untākkunnu, kēndrasthitamāya oru anuvinu curṛum oru catuṣphalakattinre mūlakaḷilāyi ī nālu anukkalum sthiti ceyyunnu. Itāṇu catuṣphalakīya ghaṭana*
2. *Oru samkramaṇa śrēṇiyil valattōṭṭu pōkum tōṇum ayanīkaraṇa vibhavattinu (IP) valiya māṛramonnum varunnilla.*

(B) Using mostly transliterated terminology

1. *kōvalanrri bandhattilēppettirikkunna anukkalile ōrbirralukalute jyōmetriyil vyatyāsaṇṇaluntākām. Atināl ī jyōmetriye atisthānamākkīyāṇu kōvalanrri rēdiyassine vivarikkēntatu. Udāharanamāyi pala mūlakanṇalute ghaṭanayilum nālu bandhita anukkal kāṇām; ivite, kēndrattilulla oru anuvinu curṛum oru tētrāhedraṇre mūlakaḷilāyi ī nālu anukkalum sthiti ceyyunnu. Itāṇu tētrā hedraḷ ghaṭana*
2. *Oru trānsiṣanal sīrīsīl valattōṭṭu pōkum tōṇum ayanīkaraṇa poṭaṇṣiyalinū (IP) valiya māṛramonnum varunnilla.*

I leave you to decide which sounds better and which makes itself understood more easily.

9. The Inadequacy of Human Languages as Vehicles of Scientific Thought

Finally, I wish to conclude on a semantic or even philosophical note. Human languages were all developed to express biological requirements (quenching hunger, thirst, requesting help or protection) or emotions (love, hatred, anger, affection). Languages were not developed to express scientific and technological facts; that was not the original *raison d'être* of any ordinary language of man. And yet, man did indeed develop one "language" which was designed not to express emotions or biological requirements, but to express scientific facts and truths. Yes, you guessed correctly; I refer to the "language" of mathematics!

Please do not think that the above is a far-fetched idea! It is not. In fact, there are areas in modern science such as quantum mechanics or relativity where all languages of man (including the most developed languages such as English) become ineffective for a full and comprehensive interpretation. Here we can express these truths only in the language of mathematics. Can mathematics develop into the ultimate language of man as a vehicle for scientific thought, reserving ordinary languages for functioning as vehicles of emotion? And then there is the vexing problem - is it possible to draw a clear dividing line between emotion and reason? Isn't there considerable overlap? These questions lead to other questions which lead to others and so on

GTA? PHONOLOGY

ARUN GHOSH

Netaji Institute for Asian Studies
Calcutta

1.0. The language of the Didayis,¹ *Gta?* derived from their ethnic name, meaning 'man' is the southernmost member of the Munda language family.² In relative terms, the language has preserved some typical features like initial nasal clusters and geminates,³ prefixation etc. not shared by other members of the family. In addition to glottal stop *per se* one finds preglottalised consonants (here defined as checked consonants) in the word final position. The Desia influence⁴ on the language is more evident among the plains Didayis than their hill counterpart.⁵ However, in both cases *Gta?*-Desia bilingualism is reported.

1.1. In this paper an attempt has been made to put forth a standardized account of *Gta?* phonology drawing data from our field notes⁶ and earlier literature.⁷ So far a detailed treatment of *Gta?* phonology within the

- 1 The name Didayi meaning 'the wild people' has been bestowed upon them by the local Oriya neighbours. Edgar Thurston (1909) mentioned of them as a section of **Poroja** called **Dur**, speaking Oriya. F. Haimendorf (1945) referred to them as **Dire**. The people call themselves **Gta?** (variant - **Gatro**), meaning 'man' wherefrom the language name has been derived. The people inhabit a forest clad hill tract in Kudumulguma and Nuduliguda grampanchayats of Kudumulguma block, Rasbeda and Andrahal grampanchayats of Khairput block in Malkangiri district of Orissa. They are also found in a small number in the adjacent Sojankanta police station of Andhra Pradesh.
- 2 *Gta?*, also known as Didayi in the earlier literature, is the sister language of Remo (also known as Bonda) and Gutob of the adjoining areas and with Sora, Juray and Pareng (or Gorum) from the Koraput Munda sub-branch of the South Munda branch of the Munda group (Zide 1969). According to Bhattacharya's classification (1975) the language belongs to the lower Munda group of which Bonda and Gutob are the other members.
- 3 The feature N-cluster in the initial position is shared by Romo but initial geminate is perhaps present in *Gta?* only.
- 4 **Desia** being the **lingua franca** of the region has exerted considerable influence on the language and that is particularly evident in the language of the people who are residing in the hill slopes and plains.
- 5 A section of the Didayis inhabiting the plains and valleys on either side of the mountain range is gradually losing their originality, being more exposed to the alien influence. The Didayis concentrating on the hills still preserve (as far as possible) their originality in respect of language, customs, dress, food-habits etc. Because of the geographical isolation there is growing a dichotomy between the two groups - one on the hills and the other on the plains.
- 6 The data for this paper was collected by the author from the Kudumulguma area of Malkargiri district during 1989-90.
- 7 Of the earlier literature mention may be made of : Studies in Comparative Munda Linguistics (Bhattacharya 1975) : 'Prote-Gutob-Remo-Gta?' stressed monosyllabic vowels and initial consonants' (De Armond 1976); *Gta?* nominal combining forms' (Mahapatra and Zide 1972); Didayi (Panda 1989); '*Gta?* clause sequences' and *Gta?* verb phrases and postpositional phrases' (Thern); *Gta?* demonstratives (Zide 1980); The structures of Didayi, an Austro-Asiatic language (Ashirvadam 1992).

structural framework is rarely attempted.⁸ Earlier accounts are partial in the sense that, either data have been collected from a single informant and thereby suffering from ideolectal limitations, or the perspective is comparative historical⁹ which has obvious restrictions. Although the language has limited speakers,¹⁰ it possesses many peculiar features which need to be recorded before it is dwindled in the midst of a veritable language scenario.¹¹

2.0. Phonology

2.1. Vowel: The Gta[?] vocalic system poses problems in regard to positing phonemic status of [E]. Besides this segment all other vowels /i, e, a, o, u/ are quite consistent in their behaviour, first, by occurring in all environments, and secondly by contrasting with each other in different positions. As regards the status of [E] earlier scholars have considerably differed in their opinion. While S. Bhattacharya (1975: 45) has assigned to it the status of an allophone of /e/, occurrence of which is conditioned by being in the closed syllable, or before a glottal stop or checked consonants and some other environments, De Armond (1976: 216), although recognized it as a distinct phoneme, tried to trace it historically in the environment of a palatal segment, thus, although implicitly, assigned to it the status of an allophone of /a/. But along side this palatal environment there are still other environments of which he is quite silent. K. Mahapatra and N. H. Zide (1972 : 181) tried to derive it from */ax/ (where x is possibly a laryngeal) historically, comparing its correspondence in other south Munda languages, especially Gutob and Remo. But from the synchronic point of view, it is quite difficult to apply this rule. In our data, data collected and presented by Ashirvadam (1992) and in the field notes of Samik Ray (1993), frequency of /E/ is greater than that of the earlier scholars. Although its occurrence in the initial position is restricted (perhaps, only in one example) it is widely used in the medial and final positions where it contrasts systematically with /e/ and other vowels. May be it is a new development in Gta[?] as it is not found frequently in earlier data collected in the 1950s and 1960s, and it corresponds with /i/ or /e/ of Gutob, Remo and Pareng. Since it is widely found where its occurrence cannot be captured by certain conditions (though in certain environment conditions assigning to it the status of an allophone of /e/ are also found) it has been ascribed a phonemic status. Here, of course, S.

8 In Ashirvadam (1992) only one finds a descriptive account of Gta[?] phonology.

9 Accounts of Bhattacharya (1975), De Armond (1976), Zide (1965) are all in comparative framework.

10 According to 1961 District Census Hand Book, Koraput, the number of speakers of Gta[?] was 1,978. It is slightly higher in 1971 Census enumeration, i.e. 2,164. The number again falls down to 2,004 according to the Didayi Development Agency Report in 1990.

11 The language of the South Munda territory (Koraput and Malkangiri) form a veritable theatre. It has housed almost twenty languages belonging to Indo-Aryan, Dravidian and Munda families. The Munda languages for obvious numerical reasons are being overpowered by Indo-Aryan and Dravidian languages.

Bhattacharya's (1975) assumption that it is becoming more and more stable, holds. Panda (1989) in her recent study has assigned to /E/ phonemic status.¹²

As to the status of [O], we are inclined to consider it as an allophone of /o/ where its occurrence is conditioned by lack of stress and preceding glottal stop and checked consonants. In the borrowed sub system, however, [O] plays an important role, by being present in higher frequency in almost all the environments. In the case of all other vowels, the phonetic variations are individualistic and without significance. Nasalisation is significant; nasal counterparts of most of the vowels are found. Along with diphthongs, vowel sequences are also found. Stress is always on the final syllable; pitch is intonational. Vowel length is non-phonemic, sometimes resulting either from emphasis or due to merger of similar vowels.

Thus, the following six vowel phonemes are attested in Gta?

i		u
	e	o
	E	
	a	

2.1.1. Allophonic variation of /o/

/o/ has two allophones, one is higher mid rounded back [o] and the other is lower-mid back rounded [O]. While the latter occurs in unstressed syllables (in polysyllabic words where the final syllable is stressed) and before glottal stop and checked consonants, the former occurs elsewhere.

Eg.

[sO?]	'to sell'	[bo-]	'to put'
[DOkoi]	'HyBW'	[tor-]	'to abandon'
[lO?]	'to fall'	[do-]	'to go'
[hO?]	'to cry'	[rog-]	'to stop'
[bOTo]	'fear'	[gog-]	'to strike'

2.1.1.1. As /e/ is split into /e/ and /E/ and the latter has gradually acquired the status of a phoneme, the allophonic nature of [E] is somewhat obliterated by the presence of a phoneme of similar nature. Hence allophonic variation of /e/ is not exemplified.

VOWEL	INITIAL	MEDIAL	FINAL
/i/	+	+	+
/e/	+	+	+
/a/	+	+	+
/E/	+	+	+
/o/	+	+	+
/u/	+	+	+

12 In the word list appended to Panda's work, words with initial /E/ are very limited.

Occurrences

/i/:	<i>ici</i>	'mock'	<i>bir</i>	'forest'	<i>si-</i>	'to cultivate'
	<i>ice?</i>	'to find fault with'	<i>Diñ-</i>	'to happen'	<i>tri</i>	'ebony'
	<i>iha-</i>	'to call out sleep'	<i>liñ-</i>	'to lift'	<i>uli</i>	'ripe'
	<i>in-su</i>	'below'	<i>bi?</i>	'to give'	<i>bri</i>	'stone'
/e/:	<i>e?e</i>	'modern'	<i>be?</i>	'to make bed'	<i>de-</i>	'to go'
	<i>eRia?</i>	'to melt'	<i>ber-</i>	'to purchase'	<i>ke-</i>	'to see'
	<i>e?ke</i>	'today'	<i>rema</i>	'man'	<i>ge-</i>	'to worship'
	<i>e?k</i>	'right now'	<i>re?mu-</i>	'to blow nose'	<i>be-</i>	'to stretch mat'
	<i>e?-Re?</i>	'to carry under the arm'	<i>Dela?-</i>	'to diminish'		
/E/:	<i>E</i>	'to swim'	<i>nE?</i>	'to accuse'	<i>arE</i>	'to build (a house)'
	<i>Eg-lE</i>	'grand child'	<i>nEn</i>	'I'	<i>gE-</i>	'to itch'
	<i>Eg-lug</i>	'ear-wax'	<i>asE?</i>	'to pass by'	<i>gE-</i>	'to sew (border of basket)'
			<i>hET-</i>	'to	<i>ggE-</i>	'to chew'
			<i>Riñ-</i>	'remember'		
			<i>hEja-</i>	'to count'		
/a/:	<i>añ</i>	'today'	<i>nañ</i>	'elder brother'	<i>na</i>	'you (sg.)'
	<i>alo</i>	'beneath'	<i>bar-</i>	'two'	<i>pa</i>	'you (dl)'
	<i>abule</i>	'impious'	<i>cnag</i>	'fishing hook'	<i>tona</i>	'sister'
			<i>bag-</i>	'to bring forth water'	<i>burda</i>	'mud'
			<i>ba?</i>	'to bark'	<i>ja</i>	'who'
/o/:	<i>oñ-</i>	'to swell'	<i>por</i>	'late'	<i>slo</i>	'far'
	<i>O?na</i>	'when'	<i>konlo</i>	'hill Didayi'	<i>lemlo</i>	'plains Didayi'
	<i>Ora</i>	'oath'	<i>tabO?</i>	'MySH'	<i>kero</i>	'way'
	<i>Osa</i>	'fifth month'	<i>pOta</i>	'rabbit'	<i>alo</i>	'beneath'
	<i>Oro-</i>	'to hang'	<i>coñ-</i>	'to eat'	<i>be-</i>	'to keep'
	<i>OsE?</i>	'to aim'	<i>bog-</i>	'to strike'	<i>Do-</i>	'to flee'
/u/:	<i>uñ-</i>	'to plant'	<i>Duñ-</i>	'to carry on shoulder'	<i>bantu</i>	'ball'
	<i>uli</i>	'mango'			<i>glu</i>	'python'
	<i>ugsa</i>	'skin'	<i>su?</i>	'to wipe'	<i>bulu</i>	'thigh'
	<i>ug-</i>	'to drink'	<i>suñ-</i>	'to sell'	<i>ñku</i>	'tiger'
	<i>ugbO?</i>	'hair'	<i>kuma-</i>	'bathe'	<i>nu</i>	'yonder there'
			<i>tur-</i>	'to look for'		

2.1.2. Contrast Pairs¹³

Gta[?] vowel phonemes contrast in two ways- one on the point of articulation - front, central and back and the other on the height of the tongue-high, mid and low. Low vowel contrasts on both the axes - front and back. However frequency of initial vowel occurrence is very low, minimal pairs are rarely found.

	INITIAL		MEDIAL		FINAL
/i:/e/:	<i>i</i> [?] - 'this <i>kuRa</i> little amount'		<i>bi</i> [?] - 'to give'		<i>gi</i> - 'to temper'
	<i>e</i> [?] - <i>k</i> - 'right <i>wa</i> [?] now'		<i>be</i> [?] - 'to arrange' <i>bir</i> - 'forest' <i>ber</i> - 'to purchase' <i>giri</i> <i>ñ</i> 'cat' <i>gire</i> <i>ñ</i> 'husband's younger brother'		<i>ge</i> - 'to worship' <i>li</i> - 'to creep' <i>le</i> - 'to thresh' <i>ci</i> - 'to be red' <i>-ce</i> 'participle suffix'.
/e:/E/:	<i>NA</i>		<i>De</i> [?] - 'to be able' <i>DE</i> [?] - 'to climb up' <i>he</i> [?] 'now' <i>hE</i> [?] - 'to cut shurbs' <i>be</i> [?] - 'to make bed' <i>bE</i> [?] - 'to unroll'		<i>ge</i> - 'to worship' <i>gE</i> - 'to itch' <i>-ne</i> 'genitive suffix' <i>nE</i> 'we' <i>me</i> - 'to dislike' <i>mE</i> 'he'
/i:/a/:	<i>int</i> 'there to the other side' <i>an-t</i> 'there to the side' <i>iñk</i> - 'now' <i>añ-k</i> 'this side'		<i>nin</i> - 'I' <i>nan</i> 'elder brother' <i>bir</i> 'forest' <i>bar</i> - 'two' <i>sa</i> [?] - 'to catch' <i>si</i> [?] - 'to sacrifice' <i>sir</i> - 'to roast' <i>sar</i> - 'to sing' <i>ga</i> [?] - 'to break' <i>gi</i> [?] 'to burn'		<i>ga</i> - 'to enter' <i>gi</i> - 'to temper' <i>giri</i> 'chest' <i>gi</i> [?] <i>ra</i> 'hot' <i>bini</i> 'earth worm' <i>bana</i> 'thatching straw' <i>li</i> - 'to creep' <i>la</i> - 'to bite and hold on'
/e:/a/:	<i>e</i> [?] - <i>kwa</i> [?] 'right now' <i>a</i> [?] - <i>kua</i> 'to incor- porate'		<i>De</i> [?] - 'to endure' <i>Da</i> [?] - 'to nail' <i>bala</i> 'planks' <i>bela</i> 'a time span' <i>ber</i> - 'to purchase' <i>bar</i> - 'two'		<i>we</i> - 'to go' <i>wa</i> - 'to call' <i>-ne</i> 'general suffix' <i>na</i> 'you'
/a/a:/o/:	<i>ã</i> - 'to thatch' <i>õ</i> - 'to hear'		<i>tar</i> - 'to rise' <i>tor</i> - 'to abandon'		<i>ba</i> - 'to slap' <i>bo</i> - 'to put/keep'

13 Minimal pairs are not always found. It is very limited, particularly in the initial position. Where minimal pairs are wanting sub-minimal pairs are cited for illustration.

	<i>alo</i>	'under'	<i>gag-</i>	'to tie'	<i>Da-</i>	'to exhaust'
	<i>ola</i>	'brooding'	<i>gog-</i>	'to peck'	<i>Do-</i>	'to run away'
			<i>ha?</i>	'to bite'	<i>oro-</i>	'to hang'
			<i>ho?</i>	'to cry'	<i>ora</i>	'oath'
/a:/u/:	<i>añ</i>	'today'	<i>tar-</i>	'to rise'	<i>na</i>	'you'
	<i>uñ</i>	'to plant'	<i>tur-</i>	'to look for'	<i>nu</i>	'yonder there'
	<i>anEn</i>	'me'	<i>ba?</i>	'to bark'	<i>ha-</i>	'to forget'
	<i>unEn</i>	'cigar'	<i>bu?</i>	'to suck'	<i>hu-</i>	'to become loose'
			<i>sa?</i>	'to catch'		
			<i>su?</i>	'to mix'		
			<i>ha?</i>	'to bite'		
/o:/u/:			<i>hu?</i>	'to shave'		
	<i>ogsa</i>	'ashes'	<i>ho?</i>	'to cry'	<i>go-</i>	'to hunt'
	<i>ugsa</i>	'skin'	<i>hu?</i>	'to shave'	<i>gu-</i>	'to comb'
	<i>on-</i>	'to swell'	<i>tor-</i>	'to abandon'	<i>to-</i>	'to husk'
	<i>uñ-</i>	'to plant'	<i>tur-</i>	'to look for'	<i>tu-</i>	'to tie'
			<i>bo?</i>	'to be lost'	<i>ñko</i>	'peacock'
			<i>bu?</i>	'to suck'	<i>ñku</i>	'tiger'
/i:/u/:	<i>ig</i>	'excrement'	<i>Diñ-</i>	'to be'	<i>hi-</i>	'to pinch'
	<i>ug-</i>	'to drink'	<i>Duñ-</i>	'to carry'	<i>hu-</i>	'to become loose'
	<i>ir-cwe?</i>	'acid (taste)'	<i>si?</i>	'to chop'	<i>gi-</i>	'to temper'
			<i>su?</i>	'to mix'	<i>gu-</i>	'seven'
	<i>ur-cwe?</i>	'soury'	<i>tir-</i>	'to gather'		
			<i>tur-</i>	'to look for'		
/e:/o/:	<i>e-Ria?</i>	'to melt'	<i>De?</i>	'to endure'	<i>-ne</i>	'general suffix'
	<i>o?ria</i>	'to wind thread in a specific frame'	<i>Do?</i>	'to turn over'	<i>no-</i>	'to stretch'
			<i>be?</i>	'to make bed'	<i>ke-</i>	'to see'
			<i>bo?</i>	'to be lost'	<i>ko-</i>	'to sit'
	<i>e?-k</i>	'right now'	<i>kenDa</i>	'branch'	<i>ge-</i>	'to worship'
	<i>o?-k</i>	'this much'	<i>KonDa</i>	'hill'	<i>go-</i>	'to hunt'
	<i>e?-Re?</i>	'to carry under the arm'			<i>be-</i>	'to stretch(mat)'
	<i>o?-Ri</i>	'how much'			<i>bo-</i>	'to put/keep'

2.1.3. Diphthongs

Gta? in conformity with other south Munda languages allows a number of diphthongs with stress on either of the components, reducing the other to a semivowel. In the process both rising and falling diphthongs are found. The Gta? diphthongs are found to occur medially and finally. Distribution of Gta? diphthongs followed by examples are tabulated below:

INITIAL	MEDIAL	FINAL
/ia/	+	+
/ei/	+	+
/ai/	+	+
/ui/	+	+
/oi/	+	-
/ae/	-	+
/ua/	+	+
/oa/	+	+
/ao/	+	-
/oe/	+	+
/ue/	-	+
/eo/	-	+
/eu/	+	+

Example:	<i>lia</i> ?	‘to `scrape’	<i>ria-</i>	‘to shake’
	<i>Diatia</i>	‘cow’	<i>ncia</i>	‘bone’
	<i>walei</i> ?	‘to fly	<i>bilei-</i>	‘to melt’
		(as a bird)’	<i>kuRei-</i>	‘to meet’
	<i>taikci</i>	‘nip’	<i>bai</i>	‘elder sister’
	<i>Tainha</i> ?	‘kick’	<i>paTai</i>	‘cloth’
	<i>muin</i>	‘one’	<i>cui-</i>	‘to cool’
	<i>bointa</i>	‘kiss’	<i>aclae-</i>	‘to stretch (something)’
	<i>luar-</i>	‘to vomit’	<i>gugua-</i>	‘cut cloth’
	<i>kuar-</i>	‘to shave’	<i>samua-</i>	‘to advise’
	<i>coar-</i>	‘to dry (in sun)’	<i>asgoa</i>	‘clear’
	<i>poa</i> ?	‘to escape’	<i>baloa</i>	‘dwarf’
	<i>daora</i>	‘chin’	<i>hoe</i>	‘now’
	<i>goe</i> ?	‘to die’	<i>abanToe-</i>	‘bend (intransitive)’
	<i>moes</i>	‘hair’	<i>gusue</i>	‘whistle’
	<i>keuT</i>	‘fisherman’	<i>neo</i>	‘leg’
			<i>neu</i>	‘oil’

2.1.4. Nasal Vowel

Nasal vowel does occur, but not as frequent as in Remo, to develop a contrast between oral and nasal vowels. Two types of nasal vowels are attested: one is in the vicinity of a nasal consonant, and the vowel gets nasalized as a natural process. Considering the process a dependent one, the nasal marker is not given. The other is independent without having any nasal consonant in the neighbourhood. Nasal counterparts of i,e, a, o and u are found.

Had there been sufficient data, it would have been possible to enquire into the phonemic status of the nasal vowels by establishing contrast

between oral and the nasal vowels. But paucity of data restricts us to only a handful of examples.

<i>-hĩ</i>	'plural marker' (also <i>-hin</i>)
<i>gẽjar-lug</i>	'to clean ear'
<i>hũ-bwar</i>	'pestle'
<i>õ-</i>	'to hear'
<i>sõtĩn</i>	'nine'
<i>goõ</i>	'fourteen'
<i>ã-</i>	'to thatch'
<i>boyã ?</i>	'brother'
<i>uluũ</i>	'child'
<i>gaihã</i>	'bamboo'

In diphthongs too, one of the components is found to be nasalized :

<i>tahũa</i>	'hope'
<i>tuhũa-</i>	'to stand'
<i>luhũa-</i>	'to become tired'
<i>thũa</i>	'vertical'

2.2. Consonant

2.2.1. The *Gta?* consonantism is marked by having stops, affricates, fricatives, nasals, liquids and semivowel. The stops are divided into labial, dental, post-alveolar, velar and glottal with voiceless and voiced counterparts, except glottal which has only voiced. As to the distribution of the stops, except glottal which is found medially and finally, all others occur initially and medially. Except in a couple of cases, the contrast between /k/ and /g/ is neutralized at the final position where there is preponderance of /g/. The final allophones of /k/ (in a limited number of cases,) and /g/ are preglottalised unexploded. In certain examples, the use of [k'] or [g'] is optional, i.e. either of the allophones is found to occur in the same word in the final position. Eg.

<i>guluk'/gulug'</i>	'here'
<i>gubuk'/gubug'</i>	'pig'
<i>klik'/klig'</i>	'method of counting'

Exploded /k/ and /t/ are found to occur finally in a few examples which is due to the loss of final vowel, Eg *at* 'beside' *ata* 'there' *naik* 'beside' *naike* 'priest' and in certain loan words. This is also true about /c/. Otherwise only preglottalised unexploded velar stops, glottal stops, nasals and liquids are found to occur finally in *Gta?*. There is preponderance of /h/ in contradistinction to the tendency of deaspirating the aspirated consonants in IA loan words. However, a couple of examples are found where voiceless and voiced aspirates are maintained. But considering the general tendency

of the language they are considered in the borrowed sub-system. Thern¹⁴ considers [h] as an allophone of /ʔ/, although K. Mahapatra and Zide (1972:181) consider it apparently to be a separate phoneme. According to De Armond (1976) /h/ occurs before monophthongs /u/, /o/, /ũ/ and /ō/ and before certain consonants, as in *hni* 'village'. To him it appears that /h/ is found to occur before palatal vowels in Gtaʔ. But in our data /h/ is found to occur before palatal vowels in the initial position as in /-hihi/ 'plural suffix'. Although /h/ does not occur in the final position, we agree with Zide and Mahapatra in assigning phonemic status to /h/, considering its frequency in the initial and medial positions. In contradistinction to some Munda languages where /c/ and /j/ tend to become dental affricates, they do not tend to be so in Gtaʔ. Of the fricatives, only dental /s/ occurs. Of the nasals, /m/ does not occur in the final position. While /n/ and /ɲ/ have full distribution [N] and *ɲ* occur as allophones of /n/ in certain environments. Of the liquids /r/ is found to occur initially, medially and finally. /l/ in addition to its initial and medial occurrences is found to occur finally only in one example and that too is a combining form (hereafter CF) of disyllabic word where it occurs medially, Eg. *-mal* as in *gomal* 'fifteen' from *malwe* 'five' (Zide 1978:56). Consonant geminates occur and there is preponderance of clusters especially the nasal clusters which are very much common in the initial position. Unlike other south Munda languages where preglottalised unexploded (checked) stops vary from two to five, Gtaʔ allows only one or two (if we consider [kʰ] and [gʰ] as distinct), but that may not be so revealed in the examples recorded by S. Bhattacharya. Occurrence of [pʰ] is only once, as in *sOlOp* 'juice' and that too a loan word. Tendency to disallow exploded stops in the final position has sometimes converted the final exploded /k/ in loan words (to preglottalised unexploded, as in *duk* 'painful' (cf. Oriya *dukh* 'sorrow') *boisak* 'name of a month etc.

2.2.1.1. The borrowed sub system is marked by having exploded stops, fricatives, affricates and clusters in the final position. Retention of voiceless and voiced aspirates in the initial and medial positions is another feature of the borrowed sub-system. This retention fairly tells of recent loans if we compare cases of deaspiration in a handful of IA or Dravidian loans. /m/ and /l/ occur finally in the borrowed sub-system. While in the native sub-system /D/ alone does not occur in the medial position where [R] occurs, in the borrowed sub-system, however, [D] occurs independently in the medial position.

14 K.L. Thern of the University of Wisconsin made this observation while he was dealing with the plains dialect of Gtaʔ. Of his unpublished manuscripts 'Gtaʔ clause sequences', 'Gtaʔ verb phrases and postpositional phrases' may be mentioned.

2.2.2. The native *Gta*? consonantism would include the following consonants in the phonemic level:

Point of Articulation	Labial	Dental	Post- alveolar	Palatal	Velar	Glottal
Stops:						
Voiceless	p	t	T		k	
Voiced	b	d	D		g	ʔ
Affricate:						
Voiceless				c		
Voiced				j		
Fricative:						
Voiceless		s				h
Voiced						
Nasal :	m	n			ɳ	
Flap:		r				
Lateral:		l				
Semivowel:	w					

2.2.2.1. The borrowed sub-system, along with similar features of the native sub-system, would include the following consonants.¹⁵

Point of Articulation	Labial	Dental	Post-alveolar	Palatal	Velar	Glottal
Stops :						
aspirate		th			kh	
Voiceless						
nonaspirate						
aspirate	bh		Dh			
Voiced						
nonaspirate						

2.2.2.1.1. In addition to these borrowed p,c,d, D, T and s show a different pattern of distribution as compared to the native sub-system. The following matrix may illustrate the point:

	INITIAL	MEDIAL	FINAL
p:	+	+	+
c:	+	+	+
d:	+	+	+
T:	+	+	+
D:	+	+	+
s:	+	+	+
m:	+	+	+
l:	+	+	

15 However, the phonemic status of the aspirate consonants in the borrowed sub-system is not systematically studied.

bh:	+	+	-
th:	+	-	-
Dh:	+	-	-
kh:	+	-	-

Example:

<i>porod</i>	'page'	<i>kOpaT</i>	'door'	<i>pap</i>	'sin'
<i>pusto</i>	'book'	<i>kapi</i>	'coffee'	<i>mic</i>	'lie'
<i>cuna</i>	'lime'	<i>somodor</i>	'sea'	<i>khoroc</i>	'expense'
<i>coit</i>	'last month'	<i>lanTo</i>	'lamp'	<i>nombed</i>	'sugar'
<i>dos</i>	'fault'	<i>DaDa</i>	'cover'	<i>jakiT</i>	'blouse'
<i>TOnka</i>	'rupce'	<i>boisak</i>	'first	<i>sOgOD</i>	'cart'
<i>Dena</i>	'wing'		month'	<i>pus</i>	'a month'
<i>sonD</i>	'bull'	<i>limbhi</i>	'lead'	<i>tebul</i>	'table'
<i>bhã</i>	'little'	<i>totla</i>	'stammerer'	<i>komal</i>	'blanket'
<i>thuã</i>	'vertical'			<i>gOm</i>	'wheat'
<i>khoroc</i>	'expense'			<i>Dam</i>	'dam'
<i>Dhã</i>	'thin'				
<i>lanTo</i>	'lantern'				

2.2.3. The native Gta' consonant phonemes have allophonic variations in certain environments. Following is the pattern of their distribution:¹⁶

	INITIAL	MEDIAL	FINAL
/p/	(p)	(p)	-
/b/	(b)	(b)	-
/t/	(t)	(t)	-
/d/	(d)	(d)	-
/T/	(T)	(T)	-
/D/	(D)	(D)/ + n-	-
		(R)	
/k/	(k)	(k)	(k')
/g/	(g)	(g)	(g')
/ʔ/	(-)	(ʔ)	(ʔ)
/c/	(c)	(c)	-
/j/	(j)	(j)	-
/s/	(s)	(s)	-
/h/	(h)	(h)	-
/m/	(m)	(m)	-
/n/	(n)	(n)	(n)
	(N)/-Cp	(N)/-Cp	
	(n)/-Ca	(n)/-Ca	
/ñ/	(ñ)/-Cv	(ñ)	(ñ)
/r/	(r)	(r)	(r)
/l/	(l)	(l)	-
/w/	(w)	(w)	-

16 C stands for consonant, p for palatal, a for post-alveolar and v for velar.

Occurrences of different phonemes in different environments:

/p/	<i>pañ-</i> <i>poʔ-</i> <i>poñ-</i> <i>pir</i> <i>puʔ-</i>	'to come' 'to shoot forth' 'to swell' 'to ache' 'to subside'	<i>caʔpog</i> <i>sapa</i> <i>sapuñ</i> <i>tapurloʔ</i> <i>caʔpar</i>	'owl' 'all' 'juice' 'dust' 'to become bright at dawn'
/b/	<i>bo-</i> <i>begʔ-</i> <i>bai</i> <i>beja</i> <i>bama-</i> <i>baloʔ-</i>	'to keep' 'to bring forth water' 'elder sister' 'tomato' 'to cast greedy eyes' 'dwarf'	<i>aba</i> <i>bobo</i> <i>taboʔ</i> <i>gabu</i> <i>bubu</i>	'father' 'affectionate address to children' 'mother's elder sister's husband' 'chaff' 'worm'
/t/	<i>tu-</i> <i>toʔ-</i> <i>togʔ-</i> (CF) <i>tagʔ-</i> <i>tur-</i>	'to tie' 'to open' 'to sew' 'weed' 'to look for'	<i>kurtia</i> <i>gatañ</i> <i>kiton</i> <i>kitlin</i> <i>gotEʔ-</i>	'horse' 'cow flea' 'god' 'sweeping' 'to bring a thing with a long stick'
/d/	<i>daoRa</i> <i>dapRe</i> <i>doenga-</i> <i>drigʔ-</i>	'chin' 'instantly' 'to boil paddy for rice' 'to listen'	<i>bada-</i> <i>bodali</i> <i>pada</i> <i>dudma</i> <i>burda</i>	'one fourth of a bamboo' 'bitter gourd' 'field' 'water fall' 'mud'
/T/	<i>TaTajun</i> <i>Tengigʔ</i> <i>Tikraroʔ-</i> <i>Tangi</i> <i>Tia-</i>	'wax' 'first' 'to open' 'axe' 'to nudge'	<i>baTa-</i> <i>gaTi</i> <i>laTa</i> <i>poTa</i> <i>puTan</i>	'to open' 'very, many' 'forest' 'stomach' 'pool'
/D/	<i>Da-</i> (CF) <i>Dia-</i> <i>Dagra</i> <i>Diran</i> <i>Doŋga</i>	'to cover' 'female' 'near' 'horn' 'to steal'	<i>merañDa</i> <i>minDig</i> <i>loRia</i> <i>toRia</i> <i>kuRei</i>	'a small one' 'night' 'to drown' 'to get up' 'to join'
/k/	<i>ko-</i> <i>ke-</i>	'to sit' 'to see'	<i>Dokoi</i>	'husband's younger brother's wife'
			<i>boTomEkʔ</i>	'fearful'

	<i>kan-</i>	'to be thick'				
	<i>kimin</i>	'son's wife'	<i>kike-bir-</i>	'to look	<i>ak'</i>	'here'
	<i>kagbo</i>	'bund of field'		here and there'		
	<i>kig'-</i>	'to spill'	<i>bilikin</i>	'ripe'	<i>bok-</i>	'to kill'
			<i>naka</i>	'jackal'		
			<i>muki</i>	'pot (metal)'		
			<i>paka</i>	'towards'		
/g/	<i>gog'-</i>	'to peck'	<i>poga</i>	'tobacco'	<i>clag'-</i>	'to spill'
	<i>gag'-</i>	'to tie'	<i>baga</i>	'half'	<i>cnag'</i>	'fish hook'
	<i>ge-</i>	'to worship'	<i>togoRia'</i>	'water	<i>rog'-</i>	'to sow'
	<i>gi'-</i>	'to burn'		spring'	<i>hug'-</i>	'to miss'
	<i>gira</i>	'send'	<i>gagbo'</i>	'top-knot'	<i>log'-</i>	'to sink'
			<i>tiga</i>	'wire'		
/?/			<i>o'sE</i>	'ancient'	<i>sla'</i>	'thee'
			<i>ko'REhE</i>	'brinjal'	<i>nDia'</i>	'water'
			<i>hwa'REg'</i>	'covered'	<i>sia'-</i>	'to tear'
			<i>hma'li</i>	'vegetable'	<i>gE'-</i>	'to roast'
/c/	<i>ca</i>	'to subside'	<i>ca?cla</i>	'coffin'		
	<i>ci</i>	'red'	<i>ice'-</i>	'to find fault with'		
	<i>cili</i>	'meat'	<i>lacwa</i>	'son-in-law'		
	<i>caria'-</i>	'to salivate'	<i>Tolucu</i>	'mahua oil'		
	<i>cin</i>	'to survey land'				
	<i>co'-</i>	'to sweep'				
	<i>con-</i>	'to eat'				
/j/	<i>ja</i>	'who'	<i>nijua</i>	'daughter's husband'		
	<i>ja'-</i>	'to consent'	<i>oial</i>	'basket cradle'		
	<i>jir</i>	'to surpass'	<i>uja'</i>	'string of bells'		
	<i>jog'-</i>	'to pick up'	<i>buju'-</i>	'to drink in one breath'		
	<i>jon-</i>	'to suspend'	<i>gējarlug-</i>	'to clean ear'		
/s/	<i>sapa</i>	'all'	<i>dasra</i>	'sixth month'		
	<i>sagwe'</i>	'clean'	<i>dosan</i>	'neighbour'		
	<i>si'-</i>	'to chop'	<i>mosali</i>	'crocodile'		
	<i>sia'-</i>	'to tear'	<i>o'sE</i>	'ancient'		
	<i>sulEg'</i>	'onion'	<i>blEsañ</i>	'roof'		
/h/	<i>ho'-</i>	'to cry'	<i>behar-</i>	'to buy'		
	<i>-hiñ</i>	'plural suffix'	<i>soroha</i>	'empty'		
	<i>hi'bo-</i>	'to bewitch'	<i>tahūa</i>	'hope'		

	<i>ha</i> ² -	'to bite'	<i>winha-</i>	'to quarrel'		
	<i>ha</i> ² <i>Ro</i>	'fish'	<i>iha-</i>	'to scream'		
			<i>tuhuiā-</i>	'to stand'		
/m/	<i>mana</i> <i>Di</i> ¹	'to deny'	<i>kuma-</i>	'to bathe'		
	<i>miria</i>	'to rise (sun)'	<i>bama-</i>	'to cast greedy eyes'		
	<i>mO</i> ² -	'to stink'	<i>ramo</i> ² -	'to drive (cattle)'		
	<i>maka</i>	'hips'	<i>amia</i> ²	'to teach'		
	<i>mia</i> ² -	'to know'	<i>kimin</i>	'son's wife'		
	<i>mīā</i>	'blood'	<i>gimi</i>	'goat'		
/n/	<i>nin</i>	'I'	<i>gini</i>	'tooth'	<i>bilikin</i>	'ripe'
	<i>-ne</i>	'general suffix'	<i>bana</i>	'thatching straw'	<i>luen</i>	'road'
	<i>na</i>	'you' (Sg)			<i>puTan</i>	'pool'
	<i>nDia</i>	'water'	<i>cinia</i>	'debt'	<i>pogon</i>	'10th month'
	<i>Nca</i>	'bone'	<i>kenDia</i>	'river'	<i>ninan</i>	'good'
	<i>Njir</i>	'three'	<i>gENja-</i>	'to shift'	<i>cin</i>	'spotted'
/ñ/	<i>ñku</i>	'tiger'	<i>Doña</i>	'to steal'	<i>Duñ-</i>	'to carry'
	<i>ñga</i> ²	'mongoose'	<i>gañha</i>	'bamboo'	<i>pañ-</i>	'to come'
	<i>ñgire</i>	'grown up boy'	<i>añra</i>	'Tuesday'	<i>rañ-</i>	'to take'
	<i>ñkuin</i>	'father-in-law'			<i>Diñ-</i>	'to do'
	<i>ñko</i>	'peacock'			<i>liñ-</i>	'to lift up'
/r/	<i>rañ-</i>	'to bring'	<i>giriñ</i>	'cat'	<i>sar-</i>	'to sing'
	<i>ra</i> ² -	'to snatch'	<i>gira</i>	'seed'	<i>jar-</i>	'to descend'
	<i>rujua</i>	'daughters husband'	<i>horE</i>	'house rat'	<i>tir-</i>	'to pile up'
	<i>ria</i> ² -	'to shake'	<i>hare</i>	'hailstone'	<i>tar-</i>	'to shine'
	<i>reka</i>	'wing'	<i>Di</i> ² <i>rE</i> ²	'to snap'	<i>tar-</i>	'to look for'
/l/	<i>liñ-</i>	'to lift up'	<i>bulu</i>	'thigh'		
	<i>le-</i>	'to thresh'	<i>cili</i>	'meat'		
	<i>loñ-</i>	'to perform puja'	<i>uli</i>	'mango'		
	<i>lug</i> ² -	'to finish'	<i>bala</i>	'planks'		
	<i>la-</i>	'to hold in mouth'	<i>wale</i> ² -	'to fly'		
/w/	<i>wig</i> ² -	'to return home'	<i>nswar</i>	'to dry up'		
	<i>wa</i> ² -	'to dance'	<i>a</i> ² <i>wig</i>	'twilight'		
	<i>wale</i> ² -	'to fly'	<i>ranwik-</i>	'to take'		
	<i>we-</i>	'to go'	<i>sagwe</i> ²	'clean'		
	<i>war-</i>	'to winnow'				

2.2.3.1. Following is the distribution pattern of all the nineteen consonant phonemes in the native sub-system of Gta? :¹⁷

Phoneme	INITIAL	MEDIAL	FINAL
/p/	+	+	-
/b/	+	+	-
/t/	+	+	(+)
/d/	+	+	-
/T/	+	+	-
/D/	+	+	-
/k/	+	+	+
/g/	+	+	+
/ʔ/	-	+	+
/c/	+	+	-
/j/	+	+	-
/s/	+	+	-
/h/	+	+	-
/m/	+	+	-
/ɲ/	+	+	+
/n/	+		+
/r/	+		+
/l/	+		(+)
/w/	+	+	-

2.2.3.2. Contrast Pairs¹⁸

/p:/b/:	<i>pa</i>	‘you’	<i>apa</i>	‘to you (Pl.)’
	<i>ba</i>	‘to slap’	<i>aba</i>	‘father’
	<i>poʔ-</i>	‘to pierce’	<i>sapa</i>	‘all’
	<i>boʔ-</i>	‘to be lost’	<i>saba</i>	‘foolish’
	(CF) <i>pag-</i>	‘to break’		
	<i>bag-</i>	‘to bring forth water’		
	<i>pir</i>	‘to ache’		
	<i>bir</i>	‘to desire to marry’		
/t:/d/:	(CF) <i>tag-</i>	‘weed’	<i>hati-</i>	‘to bury’
	<i>dag-</i>	‘to utter’	<i>kadi</i>	‘meal’
	<i>tur-</i>	‘to look for’	<i>gataɲ</i>	‘cow flea’
	<i>duɲ-</i>	‘to sink’	<i>pada</i>	‘field’
/T:/D/:	<i>Tia-</i>	‘to nudge’	<i>kuTi</i>	‘nail’
	<i>Diaʔ-</i>	‘to urinate’	<i>kuDi</i>	‘twenty’

17 (+) tells of final occurrence of the respective phonemes either through the loss of final vowel or in the combining forms of which the final syllable is dropped, Eg. **at** ‘there’ beside **ata**, **-mal** combining form of **malwe** ‘five’

18 Where minimal pairs are not found sub-minimal pairs are cited for illustration.

			<i>giTi</i>	'pebble'		
			<i>giDi</i>	'frog'		
/k:/g/:	<i>ko-</i>	'to sit'	<i>baka</i>	'hired bullock'	<i>bok-</i>	'to kill'
	<i>go-</i>	'to hunt'	<i>baga</i>	'half'	<i>bog-</i>	'to beat'
(CF)	<i>kag-</i>	'field ridges'	<i>paka</i>	'towards'	(CF) <i>bEk-</i>	'to uproot'
	<i>gag-</i>	'to tie'	<i>poga</i>	'tobacco'	<i>bEg-</i>	'to set trap'
	<i>ke-</i>	'to see'				
	<i>ge-</i>	'to worship'				
/c:/j/:	<i>con-</i>	'to eat'				
	<i>jon-</i>	'to suspend'				
	<i>ca</i>	'to subside'				
	<i>ja</i>	'who'				
	<i>ca?</i>	'to arrive'		NA		NA
	<i>ja?</i>	'to consent'				
	<i>cog-</i>	'to put on ornaments'				
	<i>jog-</i>	'to pick up'				
/s:/h/:	<i>si?</i>	'to chop'	<i>basa-</i>	'to encamp'		
	<i>hi?</i>	'to cast evil eyes'	<i>baha</i>	'head'		
	<i>dar-</i>	'to sing'				
	<i>har-</i>	'colour to fade'				
	<i>sa?</i>	'to catch'				
	<i>ha?</i>	'to bite'				
/m:/n/:	<i>mE</i>	'he'	<i>gimi</i>	'goat'		
	<i>nE</i>	'we'	<i>gini</i>	'tooth'		'Do not contrast'
			<i>bama</i>	'to cast greedy eyes'		
			<i>bana</i>	'thatching straw'		
/n:/ñ/:	<i>ntir</i>	'leaf-cup pin'	<i>tona</i>	'sister'	<i>cin-</i>	'spotted'
(CE)	<i>ñgir</i>	'grown up boy'	<i>Dona</i>	'to steal'	<i>con-</i>	'to eat'
					(CF) <i>gin-</i>	'co-wives'
					<i>gin-</i>	'to keep in mouth'
/r:/l/:	<i>rog-</i>	'to sow'	<i>caria?</i>	'to salivate'		
	<i>log-</i>	'to set (sun)'	<i>cali?</i>	'to taste'		
	<i>ria?</i>	'to shake'	<i>gali</i>	'to stain'		
	<i>lia?</i>	'to scrape'	<i>ga?ni</i>	'river bank to slide'		'Do not contrast'
			<i>jiri</i>	'deep'		
			<i>rili</i>	'flesh'		

2.2.4. Consonant Gemination

The native Gta[?] words allow consonant geminates at the initial position and in a few cases in the medial position. The possible combinations are /rr/, /tt/, /ss/, /DD/, /ll/, /bb/, /cc/, /mm/, /hh/ /gg/, /nn/, /kk/ and /pp/. Of these, /rr/ and /nn/ occur initially and medially, /pp/ only medially, while the rest occur exclusively in the initial position. Example:

/rr/	<i>rrase</i>	'cold, to be cold'	(h)arro	'sickle'		
/nn/	<i>nnake</i>	'sound'	<i>nnia</i>	'beside'	<i>anTuwannan</i>	'loud noise'
/pp/	<i>sappa</i>	'total'				
/tt/	<i>titi</i>	'hand'	<i>titan</i>	'dark'		
/ss/	<i>ssia</i>	'yellow'	<i>ssE</i>	'early, front'		
/DD/	<i>DDia[?]</i>					
	<i>par</i>	'urine'	<i>DDwecon</i>	'kitchen'		
/ll/	<i>llomDig</i>	'evening'	<i>lluRia[?]</i>	'shade'		
/bb/	<i>bbo[?]</i>	'snake'				
/cc/	<i>ccu</i>	'fruit',	<i>ccu[?]mua</i>	'grass'		
/mm/	<i>mmala</i>	'cobra'	<i>mmui[?]no</i>	'zero'		
/hh/	<i>hhayã</i>	'bow'	<i>hhweri-</i>			
			<i>[?]nDia</i>	'storm'		
/gg/	<i>ggia[?]</i>	'crow'	<i>gguria[?]</i>	'rain'		
/kk/	<i>kko[?]</i>	'cough'	<i>kka[?]</i>	'donkey'		

2.2.5. Consonant Cluster

Gta[?] allows a large number of homorganic and of heterogeneous consonant clusters, being composed primarily of two components, three component clusters, being found only in one case where the elements involved are nDr. Most of the clusters occur initially, some initially and medially and a few only in the medial position. The unique feature of the Gta[?] clusters is the occurrence of nasal clusters in the initial position. It seems from the data that the initial clusters are the true ones, whereas the medial ones are mostly created by the juxtaposition of two morphemes. Only one example of final occurrence is found and that is a loan word, Eg. *sonD* 'ox'. The distribution of the clusters followed by examples is tabulated below:

CLUSTER	INITIAL	MEDIAL	FINAL
/pn/	+		
/pl/	+		
/pr/		+	
/bt/	+		
/bc/	+		
/bk/	+		
/bn/	+		
/bs/	+		
/br/	+		

/bl/	+	
/tb/		+
/tm/	+	
/tl/		+
/tn/	+	
/tr/	+	+
/Dl/	+	
/cn/	+	
/cl/	+	
/cr/	+	
/jn/	+	
/kn/		+
/nk/	+	+
/ng/	+	+
/kl/	+	
/kr/	+	+
/gb/		+
/gk/		+
/gm/		+
/gn/	+	
/gl/	+	
/gs/		+
/gr/	+	
/gD/		+
/mb/	+	
/mn/	+	
/ml/		+
/mr/	+	
/nt/	+	
/nd/		+
/nl/	+	
/nD/	+	
/nt/		+
/ñT/		+
/ñl/		+
/ñs/		+
/ñD/		+
/ñr/		+
/ln/	+	
/lj/	+	
/lk/		+
/lg/	+	
/ls/		+
/lh/	+	
/sg/	+	
/st/		+
/sm/	+	

/sr/	+	
/sD/	+	
/sl/	+	
/rp/		+
/rk/	+	+
/rm/		+
/rh/		+
/rt/		+
/rn/		+
/hm/	+	
/hn/	+	
/hr/	+	

Eg.

<i>pno?</i>	'spear'		
<i>plog</i>	'hollow'		
<i>pla?</i>	'tail'	<i>kipri</i>	'skin'
<i>bcwe?</i>	'sour'		
<i>bkig</i>	'acid'		
<i>bnebe?</i>	'bed'		
<i>bsa</i>	'uncle'		
<i>bri</i>	'stone'		
<i>ble?</i>	'feather'		
<i>tmua?</i>	'his mouth'		
<i>tlwe</i>	'white'		
<i>tna</i>	'visible'		
<i>trigDia?</i>	'cloud'		
<i>tri</i>	'ebony'	<i>aDatra</i>	'above'
<i>DIE?</i>	'short'		
<i>cnogmu</i>	'nose ring'		
<i>clE</i>	'long'		
<i>cri</i>	'deep'		
<i>jnorla?</i>	'stream'		
<i>ñku</i>	'tiger'	<i>cikne</i>	'colour'
<i>nga?</i>	'mongoose'	<i>bañkir</i>	'to strike with heel'
<i>klig hini</i>	'in the whole village'	<i>gingin</i>	'ckeek'
<i>kriso?-</i>	'to be hungry'	<i>kokre</i>	'twisted'
		<i>ugbo?</i>	'hair'
		<i>digke</i>	'sharp'
		<i>cnogmu</i>	'nose ring'
<i>gnalwa</i>	'ant'		
<i>glaco</i>	'paw'		
<i>gri</i>	'liver'	<i>ugsa</i>	'skin'
		<i>sagra</i>	'juice'
		<i>trigDia?</i>	'cloud'

<i>mban</i>	'elder sister's husband'			
<i>mine?</i>	'name'			
<i>mrE</i>	'sweet'	<i>lemlo</i>	'pain'	
<i>nta?sin</i>	'egg'	<i>sontin</i>	'nine'	
		<i>bondapon</i>	'second raining season'	
<i>nlan</i>	'tongue'			
<i>nDEnDia?</i>	'date palm'	<i>lunDEn</i>	'naval'	<i>u?nD</i> 'four'
		<i>whantia</i>	'calf'	
		<i>bunTi</i>	'buffalo'	
		<i>tnanlug</i>	'ear ring'	
		<i>kuiisal</i>	'well'	
		<i>klinDia?klig</i>	'wet season'	
		<i>llo?conre</i>	'market'	
<i>lnnig</i>	'smooth'			
<i>lja</i>	'shallow'			
		<i>mulke</i>	'never'	
<i>lgo?</i>	'neck'			
		<i>talsia</i>	'light green'	
<i>lhia?</i>	'light'			
<i>sgua</i>	'like'			
		<i>nistai</i>	'lazy'	
<i>smi</i>	'day'			
<i>sra</i>	'deer'			
<i>sDo</i>	'hand'			
<i>kswlwe?</i>	'belly'	<i>korpig</i>	'goose'	
<i>rko?</i>	'uncooked rice'	<i>tarkig</i>	'light'	
		<i>durma</i>	'water fall'	
		<i>tiarha?re</i>	'tall person'	
		<i>kurtia</i>	'horse'	
		<i>warti</i>	'ring'	
		<i>njirno</i>	'down'	
<i>hma?hli?</i>	'vegetable'	<i>hma?hli?</i>	'vegetable'	
<i>hni</i>	'village'			
<i>hrE?</i>	'black'			
<i>hrin</i>	'back'			
<i>nDre</i>	'fly'			
<i>nDriangE?</i>	'rib'			

Bibliography

Ashirvadam, K. 1992. *The Structure of Didayi, An Austro-Asiatic Language*. Unpublished Ph.D. thesis, Hyderabad: Centre For Advanced Study in Linguistics, Osmania University.

Bhattacharya, S. 1975. *Studies in Comparative Munda Linguistics*. Simla: Indian Institute of Advanced Study.

De Armond, Richard C. 1976. 'Proto-Gutob-Rem-Gtaq stressed monosyllabic vowels and initial consonant' in Philip N. Jenner, Laurence C. Thomson and Stanley Starosta (Eds.). *Austroasiatic Studies*, Part I, Honolulu: The University Press of Hawaii.

Mahapatra, K and Norman H. Zide. 1972. "Gtaq nominal combining forms", *Indian Linguistics*, v. 33:3, pp. 179-202.

Randa, Pramoda K. 1989. *Didayi*. Bhubaneswar: Academy of Tribal Dialects and Culture.

Ray, Samik. 1992. *Some Aspects of Didayi Language*. Calcutta: Unpublished, Ms. Netaji Insititute for Asian Studies.

Zide, Norman H. 1978. *Studies in Munda Numerals*. Mysore: Central Institute of Indian Languages.

List of symbols and abbreviations:

E	lower-mid front vowel
O	lower-mid back vowel : nasalization
ŋ	velar nasal
ɳ	post-alveolar nasal
ɲ	palatal nasal
D	post-alveolar voiced stop
R	post-alveolar flap
ʔ	glottal stop
MYSH	mother's younger sister's husband
HYBW	husband's younger brother's wife



SECOND LANGUAGE ACQUISITION BY COGNATE VS NON-COGNATE LEARNERS: AN EMPIRICAL STUDY

K. VISWANATHAM

CIIL, Mysore

This is the report* of an experiment conducted on two samples of adults - one consisting of 25 cognate language speakers and the other consisting of 25 non-cognate language speakers - learning Telugu under identical conditions. In this study, an effort is made to find out empirically whether the cognate language speakers make a better achievement than the non-cognate language speakers, whether the methods and materials used in the study are effective, etc. During the study also the deficiencies in the training and the requirements for a better progress are assessed.

It is observed from the study that the cognate language speakers learn listening, speaking and reading more faster than the non-cognate language speakers, but in writing the ultimate achievement is more or less the same. It is also observed that the non-cognate language speakers made more effort than the cognate language speakers in learning and their progress in Telugu structure is more than that of the latter, but is very poor in listening, in comparison to the other three skills.

Introduction

Aim

Traditionally it is assumed that in a second language learning situation the speakers of a cognate language are in an advantageous position, and learn faster and with less effort than the speakers of non-cognate languages. In the present study, it is aimed to assess these notions empirically and also various other factors contributed by the mother tongues of the learners, class room teaching under identical conditions, etc. using actual data obtained from practical situations.

Data

Two samples of 25 learners each, one consisting of cognate language speakers (Tamil mother tongue group) and the other consisting of non-cognate language speakers (Hindi mother tongue group) are selected for the present study from a batch of non-Telugu graduate teachers learning

* The experimental versions of this paper were presented in the Seminar on Current Trends in Second Language Teaching (September 1985) Mysore and XV All India Conference of Dravidian Linguists (January 1987), Anantapur.

Telugu under identical conditions. The course is an intensive one with 5 1/2 clock hours a day, spread over 10 months.

The total duration of the course was divided into 3 parts (excluding the vacations and the examination period) and called them 'stages' as stage I, stage II and stage III. After 12 weeks of actual training (stage I) a 100-item multiple choice test in Telugu structure was administered to the learners of both the samples. Similarly, the learners were subjected to suitable tests in the four language learning skills, viz, listening, speaking, reading and writing. The scores of all these tests were obtained. In the same manner, after 25 weeks (stage II) and 35 weeks (stage III) of actual training, again the learners were subjected to similar tests of appropriate standards and the scores were obtained. Meanwhile 100 item multiple choice structure tests in their respective mother tongues were administered to assess their aptitude for learning a second language and the scores for these tests also were obtained.

Procedure

The arithmetic means and the correlation coefficients are computed using appropriate statistical procedures separately at the 3 stages. Then the significance of the difference between each pair of the means and the correlation coefficients is tested using a suitable statistics. Since the samples are of considerably smaller size, the student's statistics computed applying appropriate statistical procedures is used for this purpose. The tests used are of two-tailed type.

The sample means, the correlation coefficients and the t-values for various tests of significance along with their expected values (table values) and the state of hypothesis (i.e., retained or rejected) are presented in Tables 1, 2 and 3.

Observations

Means

1. Though the arithmetic mean \bar{X}_1 (92.73) of sample 1 on the Language Aptitude Test (mother tongue) is a little more than that of sample 2, i.e., \bar{X}_2 (90.36), \bar{X}_1 and \bar{X}_2 are comparable. That is, the difference between these two means is not significant and it can be ascribed to sampling fluctuations and other extraneous factors. Thus, the two samples, whose units are adult graduate teachers are comparable and have the same aptitude for learning Telugu as a second language. The acceptance of the null hypothesis $H_0: \bar{X}_1 = \bar{X}_2$ also confirms this.
2. The arithmetic means for sample 1 of all the tests in the target language (Telugu) are considerably higher than those of sample 2 indicating that the cognate language speakers in general scored better than the non-cognate language speakers.

TABLE 1 : ARITHMETIC MEANS OF SCORES

Samples	Arithmetic Means	Stage I	Stage II	Stage III
Sample 1 Cognate Group	\bar{X}_1 Aptitude Test in Mother Tongue	92.73	92.73	92.73
	\bar{Y}_1 Structure Test in Telugu	82.36	80.27	86.27
	Y_{11} Listening Test	75.36	81.55	86.73
	Y_{12} Speaking Test	73.82	79.82	84.09
	Y_{13} Reading Test	64.82	71.55	76.00
	Y_{14} Writing Test	63.91	69.09	79.09
Sample 2 Non-Cognate Group	\bar{X}_2 Aptitude Test in Mother Tongue	90.36	90.36	90.36
	\bar{Y}_2 Structure Test in Telugu	58.82	64.45	71.64
	Y_{21} Listening Test	66.36	61.64	67.45
	Y_{22} Speaking Test	56.00	53.00	63.36
	Y_{23} Reading Test	51.45	55.91	58.18
	Y_{24} Writing Test	55.00	55.36	71.73

TABLE 2 : CORRELATIONS BETWEEN THE SCORES

Correlations	Stages		I	II	III
Between Aptitude Test and Telugu Structure Test	Sample 1	$r_{x_1y_1}$	-0.1212	-0.2646	-0.2339
	Sample 2	$r_{x_2y_2}$	-0.1072	-0.1398	0.0105
Between Sample 1 and Sample 2	Aptitude Test	$r_{x_1x_2}$	0.5488	0.5488	0.5488
	Telugu Structure Test	$r_{y_2y_2}$	-0.0640	0.2365	0.5785
	Listening Test	$r_{y_{11}y_{21}}$	0.1369	0.3564	0.4019
	Speaking Test	$r_{y_{12}y_{22}}$	0.2217	0.2215	0.1295
	Reading Test	$r_{y_{13}y_{23}}$	0.1452	0.5186	0.6074
	Writing Test	$r_{y_{14}y_{24}}$	-0.0891	0.1142	0.2672

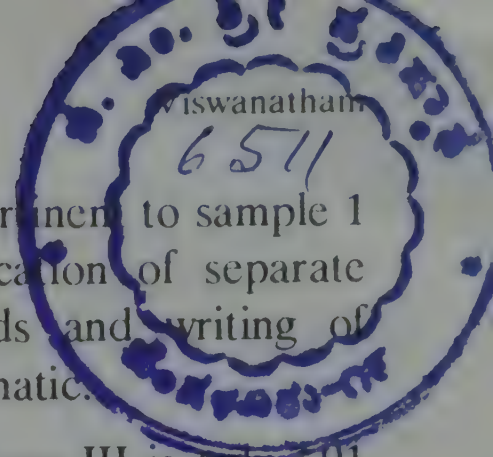
TABLE 3

t- VALUES FOR DIFFERENCES BETWEEN MEANS AND CORRELATIONS, THE EXPECTED VALUES (TABLE VALUES) WITH $(N_1 + N_2 - 2) = 48$ DEGREES OF FREEDOM FOR MEANS AND WITH $(N - 3) = 22$ DEGREES OF FREEDOM. FOR CORRELATION COEFFICIENTS AT 5% LEVEL OF SIGNIFICANCE ARE GIVEN IN THE PARENTHESIS

t-Statistics Difference between	STAGES I			II			III		
	t- values	Ho ret.	Ho rej.	t- values	Ho ret.	Ho rej.	t- values	Ho ret.	Ho rej.
X_1 and X_2 Ho: $X_1 = X_2$	1.961 (2.010)	✓		1.961 (2.010)	✓		1.961 (2.010)	✓	
Y_1 and Y_2 Ho: $Y_1 = Y_2$	4.079 (2.010)		✓	4.101 (2.010)		✓	4.596 (2.010)		✓
X_1 and Y_1 Ho: $X_2 = Y_2$	3.292 (2.010)		✓	6.115 (2.010)		✓	3.074 (2.010)		✓
X_2 and Y_2 Ho: $X_2 = Y_2$	6.707 (2.010)		✓	7.919 (2.010)		✓	7.564 (2.010)		✓
$r_{x_1y_1}$ and $r_{x_2y_2}$ Ho: $r_{x_1y_1} = r_{x_2y_2}$	-0.042 (2.074)	✓		-0.385 (2.074)	✓		-0.694 (2.074)	✓	
Y_{11} and Y_{21} Ho: $Y_{11} = Y_{21}$	2.143 (2.010)		✓	4.840 (2.010)		✓	5.603 (2.010)		✓
Y_{12} and Y_{22} Ho: $Y_{12} = Y_{22}$	4.104 (2.010)		✓	6.136 (2.010)		✓	4.957 (2.010)		✓
Y_{13} and Y_{23} Ho: $Y_{13} = Y_{23}$	3.879 (2.010)		✓	3.555 (2.010)		✓	4.239 (2.010)		✓
Y_{14} and Y_{24} Ho: $Y_{14} = Y_{24}$	1.936 (2.010)	✓		2.339 (2.010)		✓	1.329 (2.010)	✓	

ret. = retained rej. = rejected

The arithmetic mean Y_1 shows slight decrease at stage II, though it again increases at stage III whereas Y_2 shows steady increase from stage I to stage III, i.e., it increased as the duration of the training increased. The



decrease in \bar{Y}_1 may be due to the learning problems pertinent to sample 1 consisting of Tamil speakers for whom the identification of separate graphemes for voiced, voiceless and aspirate sounds and writing of geminated and clustered combinations are more problematic.

Again the total increase in \bar{Y}_1 from stage I to stage III is only 3.91 (86.27-82.36) whereas in \bar{Y}_2 it is 12.82 (71.64-58.82) which is more than 3 times to the former. This shows that the non-cognate language speakers (Hindi speakers) showed more progress in the Telugu Structure Test which implies that they made more effort in learning than the cognate language speakers. On the whole, both the samples showed upward trend from stage I to stage III indicating that the class room teaching is effective.

3. In listening, the means \bar{Y}_{11} and \bar{Y}_{21} for sample 1 and sample 2 show a different trend. \bar{Y}_{11} progresses steadily, i.e. it increases by 6.19 (81.55-75.36) at stage II and by 5.18 (86.73-81.55) at stage III. But it is partially reverse, for \bar{Y}_{21} . It decreases by 4.72 (66.36 - 61.64) at stage II, though it again shows increase at stage III. This indicates, when the language complexity increased, i.e. when the learners are exposed to more and more natural form of the speech from the unnatural and slow form at stage I, the non-cognate speakers found it more unintelligible (at stage II), the constant listening of which made them improve their listening in \bar{Y}_{11} and the vast difference in the total progress by the time the learners completed the course (stage III) which is 11.37 (86.73-75.36) for sample 1 and 1.09 (67.45 - 66.36) for sample 2 confirms that the cognate language speakers (sample 1) find much more advantage than the non-cognate language speakers (sample 2) in listening comprehension.
4. The same trend as in listening is found in speaking also. In \bar{Y}_{12} (sample 1) a steady progress is seen, i.e., from stage I to stage II 6.00 (79.82 - 73.82) and from stage II to stage III 4.27 (84.09 - 79.82). But \bar{Y}_{22} (sample 2) shows a downward trend at stage II, i.e., it is less by 3 (56.00-53.00) than \bar{Y}_{22} at stage I though it again increases at stage III. (63.36). This again can be ascribed to the structural complexity of the language which increased as the duration of the course increased which the learners could, up to some extent, achieve by the time they reached stage III. Also, the total increase in \bar{Y}_{12} is 10.27 (84.09 - 73.82) whereas it is 7.36 (63.36 - 56.00) in \bar{Y}_{22} which again indicates that the cognate language speakers are in more advantageous position than the non-cognate language speakers in learning speaking.
5. In reading comprehension, a steady progress is found from stage I to stage III in both \bar{Y}_{13} and \bar{Y}_{23} though the increase in \bar{Y}_{23} is less than that of \bar{Y}_{13} . That is, \bar{Y}_{13} increases by 6.73 (71.55-64.82) at stage II and by 4.45 (76.00-71.55) at stage III whereas \bar{Y}_{23} increases by 4.46 (55.91-51.45) and 2.27 (58.18-55.91) correspondingly. Again the total increase in \bar{Y}_{13} by the

end of the course is 11.18 (76.00-64.82) whereas that of \bar{Y}_{23} is 6.73 (58.18 -51.45) which is more than 1 1/2 times to the former. This again indicates that the progress made by the learners of sample 1 is more faster than those of sample 2 in the matter of reading comprehension which again is an advantage to them.

6. In writing test \bar{Y}_{14} shows a steady progress, i.e., it increases from stage I to stage II by 5.18 (69.09 - 63.91) and from stage II to stage III by 10.00 (79.09 - 69.09) whereas \bar{Y}_{24} does not show practically any improvement from stage I to stage II (the increase is only 0.36) but from stage II to stage III it shows a sudden jump of 16.37 (71.73 - 55.36). Thus, \bar{Y}_{24} indicates that the learners of sample 2 could not achieve much, so far as writing is concerned in the earlier part of the course. This may be partially due to insufficient vocabulary and the structural complexity of Telugu on one hand and the writing system in Hindi (mother tongue of the learners from sample 2) and its syllabic pattern which are quite different from those of Telugu on the other hand, which might have fully contributed for the very low progress by the learners of sample 2 in the earlier part of the course. Gradually by making more and more effort the learners might have overcome these hurdles by the time they reached stage III. This is supported by the sudden jump in \bar{Y}_{24} from stage II to stage III (16.37).

The increase showed in \bar{Y}_{14} from stage II to stage III is 10.00 whereas in \bar{Y}_{24} it is 16.37. This vast difference between these two samples means indicates that the progress made during stage III period by the learners of sample 2 is tremendous and they might have made much more effort than those of sample 1 to achieve this. Even in \bar{Y}_{14} the progress during this period is almost double (10.00) to that of stage II period (5.18). However, the total progress from stage I to stage III of \bar{Y}_{14} (15.18) is close to that of \bar{Y}_{24} (16.73). This tells that by the end of the course, the progress made by the cognate and the non-cognate language speakers is more or less the same but independent of each other (as $r_{\bar{Y}_{14}\bar{Y}_{24}}$ is negligibly low - see Table 2) and this indicates that the training is uniformly effective in this aspect.

7. The decrease in \bar{Y}_{21} at stage II and the very negligible total increase from stage I to stage III (1.09) indicates that for the learners of sample II, the exposure to Telugu listening is quite inadequate which is a fact since the language is taught at a place where it is not spoken. The decrease in \bar{Y}_{22} (for speaking) at stage II also supports this. Along with these facts, almost nil progress in \bar{Y}_{24} at stage II (0.36) and comparatively less total progress in \bar{Y}_{22} and \bar{Y}_{23} than \bar{Y}_{12} and \bar{Y}_{13} also indicates that the non-cognate language speakers face more hurdles in learning Telugu than the cognate language speakers in the early stages of the

course, especially in mastering the productive skills, viz. *speaking* and *writing*.

8. The cognate language speakers made approximately the same progress in *listening* (11.37), *speaking* (10.27) and *reading* (11.28) from stage I to stage III whereas the non-cognate language speakers made more or less the same progress in *speaking* (7.36) and *reading* (6.73) but a very low progress in *listening* (1.09), however both the cognate and the non-cognate language speakers made almost the same progress in *writing* (sample 1 : 15.18) and (sample 2 : 16.73).

Correlations

9. $r_{x_1y_1}$ and $r_{x_2y_2}$ the correlation coefficients between X_1 and Y_1 scores, and X_2 and Y_2 scores respectively are negligibly low at all the three stages and negative except $r_{x_2y_2}$ at stage III, and hence can be ignored. This means that the performance in the aptitude test (mother tongue) by the learners of either sample does not have any considerable effect on their performance in the *Telugu Structure Test*.
10. $r_{x_1x_2}$, the correlation coefficient between X_1 and X_2 scores, i.e., between the scores of the *Aptitude Test* of sample 1 and sample 2 is 0.549. This indicates that the scoring in the Aptitude Test is comparable and the learners of both the samples started learning Telugu from the same level with the same aptitude for learning. This is also supported by the fact that $H_0 : X_1 - X_2$ is accepted (Table 3).
11. All the Y scores showed some positive association between sample 1 and sample 2. $r_{y_1y_2}$, which is very close to zero at stage I (-0.64) indicating no association between the scoring for sample 1 and sample 2 increases in a positive direction leading to 0.237 by the end of stage II and to 0.579 by the end of stage III. $r_{y_{11}y_{21}}$, the correlation coefficient between the scores on *Listening Test* (i.e. Y_{11} and Y_{21}), which is 0.137 at stage I increases to 0.356 at stage II and to 0.402 at stage III. Similarly, $r_{y_{12}y_{22}}$, the correlation coefficient between the scores of *Speaking Test* is of a very low magnitude at stage I (0.222), remains the same at stage II (0.222), but deteriorates at stage III (0.129). Also, $r_{y_{13}y_{23}}$, the correlation coefficient between the scores on *Reading Test* is negligibly low (0.145) at stage I, but gradually increases to 0.519 at stage II and to 0.607 at stage III. In the same manner, finally $r_{y_{14}y_{24}}$, the correlation coefficient between the scores on writing is almost zero (-0.089) at stage I - may be due to the reason that the Tamil and the Devanagari (Hindi) scripts are quite different to each other - but increases by a very little amount from stage I to stage II (0.114) and from stage II to stage III (0.267). Thus, if we assume that the association between the scores of the two samples is zero for each trait, then, except for *Speaking Test*, i.e., $r_{y_{12}y_{22}}$, the total

increase in the magnitude of each coefficient is the value at the end of stage III. For $r_{y_1y_{22}}$, it is the value at stage I (i.e. 0.222).

Now, looking carefully at the magnitudes of these correlation coefficients, one finds, except in the case of *Speaking Test*, the two samples are associated in all the other traits. Also, the association has positively increased from stage I to stage III. This indicates, that the class room teaching and the methods and materials used are more effective. Also, the total increases in the magnitudes for $r_{y_1y_2}$ (0.579) and for $r_{y_{13}y_{23}}$ (0.607) is considerable and indicate that the teaching methods and materials used are more effective and satisfactory in these two cases. But in the case of listening, $r_{y_{11}y_{21}}$ shows that the learners are less exposed to the language. In the case of speaking, the highest magnitude $r_{y_1y_{22}}$ is only 0.222 which alarmingly decreases to 0.129 by the end of stage III. This shows a very poor association between the samples, implying that a very negligible effort is made in the class room to improve this skill. Also, another reason for this very poor association in speaking and comparatively less association in listening can be ascribed to lack of language environment as Telugu is taught at a place where it is not spoken.

12. It can also be observed from Table 2 that $r_{y_1y_2}$ and $r_{y_{11}y_{21}}$ respectively are -0.064 and -0.089 by the end of stage I indicating that the association between the two samples in respect of the *Structure Test* and the *Writing Test* is negligible, but later in the case of the former ($r_{y_1y_2}$) the association increases more faster, whereas it progresses in a slow pace in the latter case ($r_{y_{11}y_{21}}$) reaching respectively to 0.579 and to 0.267 by the end of stage III implying that the class room instruction was common for both the samples, whereas there was no common guidance in the matter of Writing.

t - Values

13. Acceptance of $H_0: \bar{X}_1 = \bar{X}_2$ indicates that the performance of the students of both the samples in the language *Aptitude Test* in their respective mother tongues is comparable, i.e., they have the same aptitude to learn Telugu as a second language.
14. The rejection of the hypothesis $H_0: \bar{X}_1 = \bar{Y}_1$ and $H_0: \bar{X}_2 = \bar{Y}_2$ indicates that the performance in the *Aptitude Test* in the mother tongue does not have any positive effect on their performance in the *Telugu Structure Test*.
15. The rejection of the null hypothesis $\bar{Y}_1 = \bar{Y}_2$, $\bar{Y}_{11} = \bar{Y}_{21}$, $\bar{Y}_{12} = \bar{Y}_{22}$ and $\bar{Y}_{13} = \bar{Y}_{23}$ clearly indicates that the differences between these means of the two samples are significant. That is, the performances of the students of these two samples in the *Telugu Structure Tests* and the *Listening, Speaking and Reading Tests* are independent at all the three stages.

16. In the case of writing, the acceptance of $H_0: Y_{14} = Y_{24}$ at stage I and stage III indicates that there is no significant difference between the means of these two stages, but with a contradicting result at stage II (showing significant difference between the means), probably because of some extraneous factors. The positive relation between Y_{14} and Y_{24} can be ascribed to the identical class room situations and also to the fact that the learners from both the samples had equally difficult problems in writing mostly pertaining to the learning of script.

These facts make Telugu equally difficult to the learners of both the samples and their achievements in writing is comparable, which is also supported by the fact that the progress in their respective arithmetic means from stage I to stage III is almost the same, i.e., 15.18 for sample 1 and 16.73 for sample 2. But, it is worth noting that the progress is made independent of each other which is evident from the negligible amount of correlation coefficient between them at all the three stages (-0.089, 0.114 and 0.267). Also, the total achievement in writing from stage I to stage III indicates that the Hindi speakers find it easier to learn writing than the Tamil speakers.

17. Again from Table 3 we find that the null hypothesis for the t-test that there is no difference between $r_{x_1y_1}$ and $r_{x_2y_2}$ is retained at 5% level of significance. This shows that there is certain amount of relationship between these two correlation coefficients indicating that the performance of the learners of sample 1 and that of the learners of sample 2 have some common foundation and this can again be ascribed to the common teaching materials, methods and other teaching and learning programmes under identical conditions.

Conclusions

1. The progress of the non-cognate language speakers is more than that of the cognate language speakers in respect of the achievement in Telugu structure. Also the former made considerably more effort than the latter in learning.
2. Coming to skills, the cognate language speakers learn listening, speaking and reading faster and much better than the non-cognate language speakers, but the achievement is more or less the same for both the samples in writing, and both the samples showed a better achievement in this.
3. So far as the writing skill is concerned, the non-cognate language speakers face more hurdles and difficulties in the early stages of learning, but however, by the end of the training, their progress (16.73) is even a little more than that of the cognate language speakers (15.18).

That is, the ultimate achievement by both the samples is more or less the same.

4. The non-cognate language speakers showed very low progress in listening. They showed comparatively a better achievement in speaking and reading though even this is much less than that of the cognate language speakers.
5. Because of the positive increase (though slightly) of the correlation coefficients between the scores of sample 1 and sample 2 in all the Telugu tests from stage I to stage III, we can conclude that the teaching materials, methods and other training programmes are effective.

Bibliography

Bailey, N., Madden, C. and Krashen, S. D. 1974. "Is there a 'natural sequence' in adult second language learning?" *Language Learning*, 24, 235-243.

Balystock, E. and Fronlich, M. 1977. "Aspects of second language learning in classroom settings". *Working Papers on Bilingualism*, 15, 1- 26.

Cancino, Herlinda, Ellen Rosansky and John Schumann. 1975. "The acquisition of the English auxiliary by native Spanish speakers". *TESOL Quarterly*, 9, 421 - 430.

Cancino, Herlinda, Ellen Rosansky and John Schumann. 1978. "The acquisition of English negatives and interrogatives by native Spanish speakers" in Evelyn M. Hatch. (ed). *Second Language Acquisition: A Book of Readings*, 207-230. Rowley, Mass: Newbury House.

Carroll, J. 1973. "Implications of aptitude test research and psycholinguistic theory for foreign language teaching". *Linguistics*, 112, 5-13.

Clarke, Mark A. 1979. "Reading in Spanish and English: Evidence from adult ESL Students". *Language Learning*, 29, 121-150.

Eskey, D. E. 1973. "A Model program for teaching advanced reading to students of EFL". *Language Learning*, 23.2, 169-184.

Gardener, R. and Lambert, W. 1972. *Attitudes and Motivation in Second Language Learning*. Rowley, MA: Newbury House.

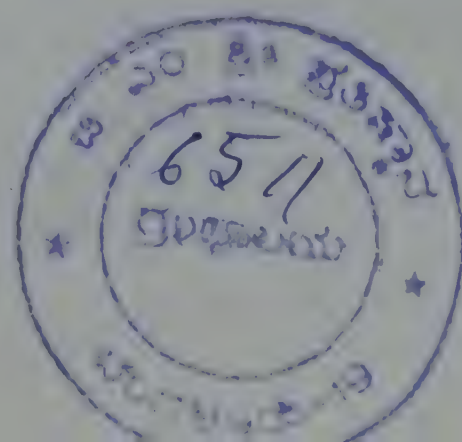
Gullford, J. P. 1965. *Fundamental Statistics in Psychology and Education*. New York : Mc Graw Hill.

Greene, F. P. 1965. "Modification of cloze procedure and changes in reacing test performance". *Journal of Educational Measurement*, 2.2 Dec. 213-217.

Hakuta, K. 1976. "A case study of Japanese child learning English as a second language". *Language Learning*, 26, 321-351.

Hakuta, K and Cancino, H. 1977. "Trends in second language acquisition". *Harvard Education Review*, 47, 294-316.

- Huang, Joseph and Evelyn M. Hatch. 1978. "A Chinese child's acquisition of English" in Evelyn M. Hatch. (ed.). *Second Language Acquisition: A Book of Reading*, 118-131, Mass : Newbury House.
- Keller-Cohen, Deborah. 1979. "Systematicity and variation in the non-native child's acquisition of conversational skills". *Language Learning*, 29, 27-44.
- Krashen, S. D. 1976. "Formal and informal linguistic environments in Language learning and language acquisition". *TESOL Quarterly*, 10, 157-168.
- Krashen, S. 1979. "Attitude and aptitude in relation to second language acquisition and learning" in Driller, K. (ed.). *Individual's Differences and Universals in Language Learning Aptitude*, Rowley, Mass: Newbury House.
- Krashen, S. 1979b. "Relating theory and practice in adult second language acquisition" in Felix, S. (ed.). *Recent Trends in Research on Second Language Acquisition*. Tubingen: TBL Gunter Narr.
- Lado, Robert. 1961. *Language Testing*. London: Longman.
- Long, M. 1976. "Encouraging language acquisition by adults in a formal instructional setting". *ELT Documents* 3.
- Palmer, Adrian S. 1979. "Compartmentalized and integrated control: An assessment of some evidence for two kinds of competence and implications for the classroom". *Language Learning*, 29, 169-180.
- Ravem, Roar. 1968. "Language acquisition in a second language environment". *IRAL*, 7, 175-185.
- Richards, Jack C. 1974. *Error Analysis : Prospectives on Second Language Acquisition*. London : Longmans.
- Ritchie, W.C. (ed.) 1978. *Second Language Acquisition Research*. New York : Academic Press.
- Samuels, Douglas D. and Griffore, Robert J. 1979. "The Plattsburgh French Language immersion program: Its influence on intelligence and self-esteem". *Language Learning*, 29, 45-52.
- Schumann, J. 1976. "Second language acquisition research: Getting a more global look at the learner" in Brown, H. D (ed.), *Papers in Second Language Acquisition*. Special Issue, 4, 15-27.
- Torone, E. Swain. M and Farthman, A. 1976. "Some limitations to the class room application of current second language acquisition research". *TESOL Quarterly*, 10, 19-32.
- Viswanatham, K. *Essential Statistics for Educational Testing* (unpublished book).



NATURE OF HONORIFIC IN ORIYA

GOURI SANKAR MAHAPATRO & RANJAN KUMAR DAS

Berhampur University
Orissa

1.1. Introduction

The traditional grammarians as well as the modern linguists held that

1. Beames (1970:147) does not accept gender to be a significant grammatical category in Oriya and states that Oriya has no gender at all barring the tatsama loans used only in the high variety.
2. Nandasharma (1968) considers Oriya to have only two natural genders, viz. masculine and feminine; masculine covers the domain of neuter. He has not at all discussed the concept 'grammatical gender'.
3. Mohapatra and Das (1969:29) classify the nouns on the basis of sex distinctions, such as masculine, feminine and neuter.
4. Dash (1981) only classifies the nouns in a morphological model on the basis of some substantive inflectional suffixes.
5. Mohanty (1986) in his (unpublished) Ph.D thesis concludes that Oriya does not have grammatical gender. He tries to determine the gender of a noun or pronoun in a Platonic sense, i.e. by the sex of a word. Furthermore his conclusion that the gender agreement is confined to modifier-head-noun constructions contradicts his statement that Oriya has no grammatical gender. On the basis of 'derivation' he concludes that masculine nouns are unmarked and feminine nouns are marked which is highly controversial.
6. *Mādhyaṃika Oriya Byākaraṇa* (MOB) (1993) prescribed for school and colleges by the Government of Orissa is not different from the above views regarding gender.

So far as the number system in Oriya is concerned, all the traditional and modern grammarians have held that there are two numbers, viz. singular and plural and the finite verb in a sentence agrees with the number of the subject. However, the *Mādhyaṃika Oriya Byākaraṇa* presents some interesting data regarding number. These are given below:

- (1) i. *pila asileni*
child have arrived
"Children have arrived".

- ii. *lok* \supset *asilen*_{ṇi}
man have arrived
"People have arrived"
- iii. *g*^h \supset *r* \supset *g*^h \supset *r* \supset
house house
"houses"

In (1. i & ii) the subjects are in singular form but the verb stem *as-* 'come' is inflected for number and subjects *pila* 'child' and *lok* \supset 'man' have the plural sense. At (1. iii) it is shown that the reduplication has some import of plurality. But the MOB could not provide any explanation for these facts.

In the following sections we have reanalysed the data presented by the earlier linguists to discuss gender and number.

1.2. Gender and Number Agreement in Finite Sentence

Observe the following data where it seems that the verb in a finite sentence agrees with the number of the subject.

- (2) i. *se* *m* \supset *rig* \supset *la*
he has died
"He has died"
- ii. *semane* *m* \supset *rig* \supset *le*
they have died
"They have died"

At (2. i) *se* 'he' is 3rd person singular and at (2. ii) *semane* 'they' is 3rd person plural. There is a contrast in the agreement element of the verb forms at (2. i and ii) i.e. *-a* vs *-e*. This contrast is taken to be the singular and plural markers respectively in the traditional analyses. But this apparent conclusion is falsified in the examples given below:

- (3) i. *goseibapa* *m* \supset *rig* \supset *le*
grandfather has died
"Grandfather has died"
- ii. *se* *m* \supset *rig* \supset *le*
he has died
"He has died"

At both (3. i & ii) the agreement marker is *-e* (the so-called plural marker) but the subjects are singular. (3. ii) provides a crucial clue in this regard, that is, the *se* of (3. ii) is different from the *se* of (2. i) as the former can refer to *goseibapa* but not the latter *se*. That is, it is not number but the *honorific* element of the subject which is reflected in the agreement. Let us discuss more data in this regard.

- (4) i. *g* \supset *c*^h \supset *ta* *m* \supset *rig* \supset *la*
tree is dead
"The tree is dead"

- ii. $g\supset c^h gurik$ $m\supset rig\supset la/*m\supset rig\supset le$
 trees were dead
 "The trees were dead"
- (5) i. $(seman\supset \eta k\supset r\supset /tar\supset)$ $kam\supset \eta ta$ $heigola$
 their / his work was completed
 "Their/his work was completed"
- ii. $(seman\supset \eta k\supset r\supset /tar\supset)$ $kam\supset gurik\supset$ $heig\supset la/*heig\supset le$
 their his works were completed
 "Their/his works were completed"

At (4. i and ii) the subjects $g\supset c^h\supset \eta ta$ 'tree' and $g\supset c^h\supset gurik\supset$ 'trees' are in singular and plural form respectively. But there is no change in the agreement element. That is, irrespective of number *-animate* nouns form a class which is agreed by *-a*. At (5. i and ii) the genitive subjects are superfluous; the real subjects are $kam\supset \eta ta$ 'work' and $kam\supset gurik\supset$ 'works' as is evident in the transcription. These subjects can also be classified with the *-animate* class.

Now, it is evident that the traditional grammarians confuse the gender agreement to be the number agreement. The confusion mainly arises from the following examples.

- (6) i. se $m\supset rig\supset la$
 he was dead
 "He was dead"
- ii. $semane$ $m\supset rig\supset le$
 they were dead
 "They were dead"

The contrast in the agreement elements at (6. i and ii) is assigned to the singular and plural subjects such as se 'he' and $semane$ 'they'. Here, the nature of *honorific* must be perceived as a socio-cultural aspect of a particular community which may be different from others. That is, we can assume that the plurality of *human* is *+honorific* in Oriya. Then number, in Oriya forms a complex category which is a sub-category of gender.

1.3. Overt gender markers in Oriya

The traditional grammarians state that ηa , ηi , ηe , ηie are the singular markers and $mane$, $gurak\supset$, $gurik\supset$, $jak\supset$ etc. are the plural markers. Mohanty (1986) treats them as classifiers, but the analysis and description he has provided is not adequate. For instance, he states that $b^h\supset y\supset$ 'fear' - $b^h\supset y\supset \eta a$ '(one's) fear' is possible but not $s\supset r\supset \eta \supset \eta ta$ 'simplicity' - $*s\supset r\supset \eta \supset \eta ta\eta a$ or $sadhuta$ 'honesty' - $*sadhuta\eta a$; because

"....It is very hard to explain why $b^h\supset y\supset$ can take ηa whereas $sadhuta$ and $s\supset r\supset \eta \supset \eta ta\eta a$ cannot take it. ... It seems reasonable to state that the domain of the use of the least marked ηa is getting extended to the

uncountable abstract nouns. So $/b^h\supset y\supset ta/$ is a mere extension in the use of Oriya language, not in Oriya grammar because such a rule cannot be posited in a grammar of Oriya." A reanalysis of the data shows the above statement is ridiculous. The data is given below:

- (7) i. $g^h nuna$ 'hatred' $g^h nuna\dot{t}a$ 'hatred'
 ii. $rag\supset$ 'anger' $rag\supset\dot{t}a$ 'anger'
 iii. $cinta$ 'botheration' $cinta\dot{t}a$ 'botheration'

That is, $b^h\supset y\supset - b^h\supset y\supset\dot{t}a$ is not the only pair in Oriya but the above uncountable abstract nouns at 7(i) (left hand) can form such pairs. Then, we can assume that $/t/$ of $/\dot{t}a, \dot{t}i, \dot{t}e/$ etc. is the gender marker, which separates the $+divine$ from $-divine$ abstract nouns. For instance, in sentences such as

- (8) i. $*g\supset c^h\supset m\supset rig\supset la$
 ii. $g\supset c^h\supset\dot{t}a morig\supset la$ "The tree was dead"
 iii. $*bapa\dot{t}a m\supset rig\supset le$
 iv. $bapa morig\supset le$ "The father was dead"

the $-animate$ nouns are marked by $/t/$. This is evident in (8. i-iv); where the ungrammaticality of 8. i and 8. iii can be explained on the basis of the gender.

In the previous section, we have already mentioned that the number forms a complex category with the $+animate$ nouns. Let us discuss the issue in more detail.

- (9) i. $lok\supset gurak\supset/mane asuc\supset nti$
 man-Pl. are coming
 "People are coming"
 ii. $kukur gurak\supset/*mane asuc\supset nti$
 dog-Pl. are coming
 "Dogs are coming"

Compare the subjects at (9. i) and (9. ii). They contrast on the feature $[+human]$. In addition to this $lok\supset$ 'man' has a $-honorific$ sense and therefore $gurak\supset$ can occur with it. This is further evident in the construction such as $lok\supset asuc\supset nti$ 'people are coming' where $lok\supset$ 'men' has $+collective$ sense. But $human$ collective is always $honorific$; whereas $-human$ collective may not necessarily be $-honorific$. Consider some interesting data in this regard.

- (10) i. $gaip\supset l\supset\dot{t}a asuci/asuc\supset nti$
 cow-herd coming
 "Cattle-herd is coming"
 ii. $gaigot\supset\dot{t}a asuci/asuc\supset nti$
 cow-herd coming
 "Cattle herd is coming"

Unlike (9. i) the verb at (10) can be inflected for \pm *honorific*. This can be explained on the basis of dominance relationships among the rules of grammar. The *+human* feature of the subject dominates the agreement rules and therefore, at (9. i) or in *+human + collective* the verb inflected or *+honorific*, whereas *-human + collective* can be inflected for \pm *honorific* as it is shown in (10).

1.4. The nature of 'honorific' in Oriya

From the above discussions and evidences it is evident that there are levels of \pm *honorific*. Accordingly we can classify the nouns into various groups as follows:

(11) (a) *+Honorific*

- i. Human elder
- ii. Human-Elder + Plural
- iii. Human + Collective
- iv. Animate + Plural-Collective
- v. -Animate + Supernatural
- vi. Abstract + Virtue
- vii. Animate-Human + Collective

(b) *-Honorific*

- i. Animate-Human + Collective
- ii. Animate
- iii. Abstract-Virtue

This classification is operative in the subject-verb agreement. But the nouns are also inflected for gender and are marked by *-t-*.

1.5. *ta, ti, te, tie*

Traditionally these elements are confused to be the number markers. But in our discussion in the previous sections, it is evident that *-t-* in these elements is a gender marker. */a/*, */i/*, */e/* and */ie/* etc. represent the complex systems of distance and degree of politeness. These aspects are discussed in the following examples.

- (12) i. *lok* \supset *ta asici*
 ii. *lok* \supset *te asici*
 iii. *lok* \supset *tie jauci/asuci*
 iv. *lok* \supset *ti asici*

The situations and contexts of speech in 12. i-iv are described below:

12. i. *lok* \supset 'person' is known to the speaker and the listener. *lok* \supset is not present in the speech situation; *lok* \supset is undesirable.
 ii. *lok* \supset 'person' is not known to the speaker; *lok* \supset is not present in the speech situation.

- iii. *lok* \supset 'person' unknown; more definite.
- iv. *lok* \supset 'person' is not undesirable; the distance is less.

1.6. Speaker, Listener and Reference

In the previous section, we have seen that *a*, *i*, *e* and *ie* are the elements related to the status of the person referred and distance between speech occurrence and the person/object referred. These findings are more explicit in the phrasal constructions given below:

- (13) i. *ei pila* 'this boy'
 ii. *ie* 'this one'

ei and *ie* of (13) correspond to *ie* of *lok* \supset *tie* of (12. iii). That is, the element referred is definite and present in the speech situation.

- (14) i. *ei pilata* 'this boy'
 ii. *eiṭa/*iēṭa* 'this one'

(13) supports the assumption that *ei* and *ie* are allomorphic. The assumption that *a* represents [undesirability] as discussed at (2. i) is further evident at (14). Furthermore, we have seen at (14), that *ei* and *ie* dominate (partially) *a*.

- (15) *e pila* 'Hey, boy'

(15) can occur when the addressee is calling a person who is unknown to him and who is at a (remote) distance from the addressee. Thus *e* of (15) corresponds to the *e* of (12. ii).

i has no independent occurrence. It may be interplayed with other items such as *e*. Further investigation is required to explore this area of Oriya.

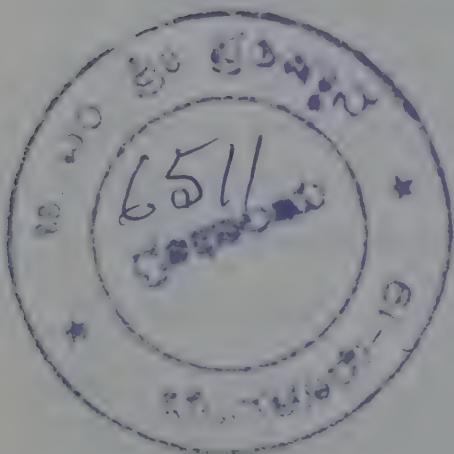
1.7. Conclusion

In the above discussion of various evidences and arguments, we find that the socio-cultural notion *honorific* interplays with grammatical processes. The nature of *honorific* may vary from culture to culture. For instance, *human collective* is equated with *human elder* or *-animate supernatural* as we have discussed elsewhere in this paper. We assume that this line of looking at grammatical issues would reveal the underlying patterns in a language. Furthermore, we find that Oriya has overt devices to express the nature of addressee, distance between speaker-listener and referred, definiteness etc. of the item referred, etc.

In the present article we have considered formal grammatical issues to study the socio-linguistic aspects and vice-versa. We hope that this methodology would be explored further and will be highly useful for both formal and socio-linguistics.

Bibliography

- Beames, J. 1872. Rep. 1970. *A Comparative Grammar of the Modern Aryan Languages of India*. New Delhi: Munshiram Manoharlal.
- Bloomfield, L. 1933. Rep. 1963. *Language*, Delhi: Motilal Banarsidass.
- Chatterji, S.K. 1926. Rep. 1970. *The Origin and Development of the Bengali Language*, London: George Allen and Unwin.
- Corbett, G.C. and Hayward R.J. 1987. "Gender and Number in Bayso". *Lingua*, 73 Nos. 1/2.
- Dash, G. N. 1982. *Descriptive Morphology of Oriya*. Shantiniketan: Visva Bharati Research Publication Committee.
- Hockett, C. F. 1958. Rep. 1970. *A Course in Modern Linguistics*. New Delhi: Oxford and IBH Publishing Co.
- Joos, M. (Ed.). 1957. *Readings in Linguistics*. Chicago: The University of Chicago Press.
- Lyons, J. 1968. *Introduction to Theoretical Linguistics*. London: Cambridge University Press.
- Mishra, H. 1975. *Historical Oriya Morphology*. Varanasi: Bharata Manisha.
- Mādhyamika Odia Byākarana*. 1977. Cuttack: Board of Secondary Education, Orissa.
- Mohanty, P. 1986. *Some Aspects of Oriya Phonology and Morphology* (Unpublished Ph.D thesis). Berhampur University, Orissa.
- Mahapatro, H. and Das, S. 1969. *Sarbasara Byakarana*, Cuttack: New Student's Store.
- Nandasharma, G.N. 1968. *Odiā Bhāsātattwa*. Cuttack: New Student's Store (first published in 1927).
- Padhi, B. M. 1972. *Odiā Bhāsāra Rupatattwa*. Berhampur: Pustaka Bhandara.
- Tripathy, K.B. 1959. "The enclitic definitive 'i' in Oriya". *Indian Linguistics*, 20 (Turner Jubilee Vol. II), 109-111.



IMPACT OF SOCIO-LINGUISTIC AND ACHIEVEMENT INDICATORS ON ESL PROFICIENCY: AN APPLICATION OF CLOZE TEST TO PUNJABI SUBJECTS

SETJIT KAUR

Problem Setting

"Communicative functions are culture-specific in the same way as linguistic forms are language-specific" (Widdowson, 1979:66). In a communicative competence model, therefore, teaching starts from the premise that learner is equipped with basic proficiency in grammar (grammatical competence) and emphasizes the teaching of styles and registers to develop his language competence for contextual situations (socio-linguistic competence).

The socio-linguistic background-cum-achievement influences are associated with the educational institutions, namely their management (Convent, Private or Government), its locational base (village, town or city), individual achievement attributes as displayed by attainment of I, II or III division, the ability to get admission in the desired course (science, commerce or arts), exposure to the English language and preference for a particular medium of instruction (English, Punjabi or Hindi). Sex, language spoken at home, and residential location, viz. village, town and city, are some other variables that may be taken note of.

A village settlement in Punjab (India) generally represents a close-knit local community which has limited communication and interaction with the rest of the world. In contrast, a city is well connected with the rest of the region, the nation and the world. A town represents a link between the village and the city. Whereas at the village level native language is the sole means of communication, it gets supplemented (or even replaced) by English language at the town level, more so, at the city level. Consequently, English commands a relatively congenial environment for its usage and growth in the city and marginally in the towns, but a hostile environment in the villages. That is, the location does motivate and, ultimately, enhance the proficiency level in English. Similarly, an appreciation of the development of science and technology propels the subjects (and their benefactors) to prefer science course, followed in declining order, to commerce and arts. Successful choice of a course depending on the division attained can, accordingly, be assumed as an achievement index.

The schemata of the paper¹ contains six sections and one appendix. The first two sections are aimed at introducing (section 1) and preparing the *Cloze test* (section 2). Apart from discussing the importance of Cloze test, the introductory section elucidates its logical base and discusses doubts and defence relating to its use. Section 2 examines the operational choices that influence the level of proficiency measured by Cloze test. These choices relate to the selection of text passage, deletion method and scoring method. The next three sections are devoted to the database and the analysis of the results derived from the application of Cloze test. The broad spectrum of the Cloze passage administered to 10 + 2 level students is presented in section 3. Overall performance behaviour in terms of different scoring methods embraces section 4. Section 5 details the performance behaviour in terms of different socio-linguistic and achievement indicators. Concluding remarks follow in section 6.

1. Introduction

Out of a variety of fill-in-blank test devices employed in the literature for teaching and testing of proficiency in English as a second language (ESL), *Cloze procedure* developed by Wilson Taylor (1953) is known to be the most powerful tool. Its application for testing foreign language proficiency owes to the work of Carroll et al. (1959). The Cloze technique remained neglected in standard textbooks on language testing (Lado, 1961; Harris, 1969) as well as in language teaching manuals (Lado, 1964; Brooks, 1964; Rivers, 1968). There have, however, been excellent reviews of the literature on the subject (Bormuth, 1968; Oller and Conrad, 1971). And, it is now increasingly used to test the proficiency of language learners (Oller and Inal, 1971; Irvine et al., 1974; Agnihotri and Sahgal, 1987).

Cloze procedure is an objective and reliable measure of global comprehension. Cloze tests have been used for a great variety of purposes, viz. to measure readability of a text, difficulty of passages of prose, reading comprehension, listening comprehension, grammar and vocabulary usage, quality of translations, attitudes, and to determine appropriate levels of instructional materials. Cloze tests, like dictation, are *integrative tests*. Both Cloze procedure and dictation have been strongly supported by empirical research as valid integrative tests of second language proficiency. Unlike *discrete point tests* which measure the components of language separately, integrative tests assess a learner's ability to use several language

1 This paper draws heavily on Chapter VII of my Ph.D. Thesis entitled *Aspects of Pedagogical Linguistics: A Case Study of English in Punjab*, submitted (November, 1993) to Department of Anthropological Linguistics and Punjabi Language, Punjabi University, Patiala.

The author is indebted to Professors V. Prakasam, Gurkirpal Singh Sekhon, Joginder S. Puar and S.S. Joshi for useful suggestions on earlier drafts of the work.

components simultaneously (Oller, 1979). In fact, Cloze test provides a composite view of language as a whole. It represents a union of *linguistic competence* and *communicative competence*.

2. Cloze Test: The logical base

Cloze procedure is based on the principle of *Gestalt psychology*. The notion of Gestalt *closure* refers to a natural human psychological tendency to fill in gaps in broken patterns, i.e., to restore the words with the help of grammatical and stylistic information. It involves a cognitive task 'based on understanding and reasoning' (Rye, 1982). It is a 'constructive language process' (Ryan and Semmel, 1969).

Cloze technique is a valid device for measuring second language proficiency. It requires a student to perform a task which is not unlike what native speakers do in sending and receiving messages. In listening, we anticipate what the speaker will say next and frequently (overtly or covertly) supply the missing words or phrases. In fact, a similar process gets replicated in speaking and writing. While in speaking, due to the desire to communicate properly, we sometimes find ourselves groping for a word halfway into a sentence and readjust our output delivery. In writing, the constraints imposed by the internalized rule system help the learner to make hypotheses and predictions about the (missing) content of the passage. To fill the missing words, the learner utilizes both the *productive* (or active) and the *receptive* (or passive) skills of language. This is what Oller (1973) calls the *grammar of expectancy*.

2.1. Doubts and Defence

A frequent assumption of proficiency tests for non-native speakers of a language is that they measure something that native speakers are able to do uniformly well (Alderson, 1980). This assumption has been under cloud in the context of native as well as non-native subjects. For instance, Lado (1986) working with 32 graduate and undergraduate native speakers of English used a Cloze test of 50 blanks (which was earlier used as an admission criteria for foreign applicants) and found exact scores to be far below 100% (with actual values ranging from a very poor 32% to a still modest 72%). From this he inferred that Cloze tests are invalid instruments for measuring linguistic competence of non-native speakers.

Sciarone and Schoorl (1989), however, question the methodological base (the choice of text) of Lado's inference. The restoration of a mutilated text is questioned on two counts, namely differential in the factual competence level and differential in the level of stylistic affinity with the text of the author. Lado's scores strongly suggest that the native subjects were not conversant with the subject matter of the text, i.e., they lacked factual

competence and stylistic affinity with the text. In such circumstances, a high production of exact responses would suffice. In fact, acceptable responses are as clear a sign of general language proficiency as would be the exact ones. A Cloze experiment (using a familiar text) conducted on a number of native Dutch speakers by Sciarone and Schoorl (1989) yielded a performance rate close to 100% (with mean scores ranging from 74.80 to 81.65 for a total of 100 items). Earlier, a high performance rate was also reported by Angoff and Sharon (1971) in an experiment with native American college students and non-native applicants to U.S. colleges.

2.2. The Operational Choices

Preparation of a Cloze test involves selection or development of a passage of prose of suitable difficulty (definable in terms of population and its language objectives) of approximately 250 to 500 words in length (Oller and Conrad, 1971), deleting every n th word (where n usually is a number between 5 and 10) and replacing it with a blank of standard length, generating, say 50 blanks. This mechanical method of selecting blanks to be filled in by a student can, in the long-run, be expected to reflect the frequency of occurrence of grammatical and lexical forms in the languages being tested. Alderson (1980) calls this method *pseudo-random* Cloze procedure.

Thus, the performance of a Cloze test varies significantly with the *choice of text* and the *type of test population* (Alderson 1983), the *deletion rate* (Alderson 1980, 1983), the *starting of deletion point* (Porter, 1978) and the *number of blanks* and the *choice of scoring method* (Sciarone and Schoorl, 1989).

Sciarone and Schoorl (1989) maintain that the scoring method determines the number of blanks minimally required to ensure parallelism for Cloze tests differing only in the point at which deletion starts. They constructed a test containing a series of 200 blanks (four times the usual size) differing only in the point at which deletion starts and administered it to Indonesian learners of Dutch. Their analysis (based on the same text) of the scores on the various sub-sets of 100, 75, and 50 items revealed that the number of blanks is susceptible to the scoring method used. According to them a Cloze test should contain a minimum of about 100 blanks with the exact word method and with the acceptable word method, a minimum of 75 blanks will suffice. However, ever since the claim made by Taylor, 50 items Cloze test has generally been accepted as an adequate norm for measuring language proficiency. For, "a series of about 50 blanks is roughly sufficient to allow the chances of mechanically selecting easy or hard words to cancel out and yield a stable score of the difficulty of a passage, or the performance of an individual, despite what specific words the process may delete" (Taylor, 1956: 48).

2.3 Sensitivity to Text Choice

Cloze test performance is sensitive to the choice of text. An arbitrary piece of text may fail to represent a set of desired grammatical and lexical items. For, the n th word deletion in a Cloze passage with a peculiar frequency distribution of linguistic elements (a few elements occurring very frequently and many other elements only rarely) is likely to yield highly frequent elements such as articles, auxiliaries, conjunctions, etc. On the other hand, a Cloze test with low frequency elements may reflect the lexical idiosyncracies of individual texts.

Some Cloze items are sensitive to textual constraints ranging across sentence boundaries. This has been established by destroying the inter-sentential ties, i.e., by scrambling the order of sentences in a Cloze passage (Chavez-Oller et al., 1985; Brown, 1983; Bachman, 1982; Oller, 1975). The influence of inter-sentential sensitivity range varies, depending on the text, from 5 to 10 words on either side of a blank in certain sentences and even beyond 50 words on earlier side of a blank in other sentences (Chavez-Oller et al., 1985).

Cloze test is, however, found to be equally sensitive to a text administered either in a native or in a foreign language. Working with the 12th grade high school students speaking English (35), Thai (122) and Vietnamese (115), Oller et al. (1972) found that translating a passage from one (native) language into another (English) yields Cloze tests of approximately equal difficulty in both languages. This is attributed to the psycholinguistic universal tendency that prevents a speaker from seeing errors even in his native language. Similarly, texts of different difficulty levels (viz. easy, medium and difficult) are ranked in the same order of difficulty both by native (360) and non-native speakers (360) regardless of deletion frequency changes and scoring procedure used (Alderson, 1980).

2.4. Deletion Techniques

There are two ways of deleting words from a passage in a Cloze test. One way is to delete every n th word (usually 5th to 10th) and replacing it with a blank. This method is known as *fixed-ratio deletion* method. This *pseudo-random* procedure is increasingly considered synonymous with Cloze test in English as a second/foreign language (ESL/EFL) world (Alderson, 1980). In the second method, deletion choice depends on specific purpose, say deleting specific items as articles, prepositions, nouns, verbs, etc. depending upon grammar teaching/testing objectives. This method is known as *variable-ratio deletion* method or *rational deletion* method. Alderson (1980) prefers to call the latter procedure as *gap-filling tests*.

Of the two choices available for deleting words from a passage, namely *every nth word* and the *rational deletion* method, Taylor (1953) opts for the former to minimize the otherwise likely bias of the test in favour of certain grammatical categories. For, "if enough words are struck out at random, the blanks will come to represent proportionally all kinds of words to the extent they occur" (Taylor, 1953: 419). Whereas Bachman (1982) asserts that rational deletion method in a Cloze test results in greater inter-sentential sensitivity than mechanical (*nth word*) deletion, no such significant performance difference between Cloze tests with mechanical or rational deletion was observed by Markham (1985) in his study of 84 college level students of German.

The ideal method should, however, have the positive ingredients of both the deletion techniques. That is, it should be item specific as well as should deploy the nth word choice for deletion. This necessitates development of a text for a specific purpose rather than any arbitrarily chosen passage. This study ventures with this experiment.

2.5 Scoring Criterion

Cloze is a proficiency test. Its scoring by exact word method, though ideal, fails to give due credit to the partially successful efforts made by non-native learners. This dimension is well captured by acceptable word method, though it demands high degree of native-like control of the language on the part of an assessor (Irvine, et al., 1974).

3. Salient Features of Cloze Passage

Given the focus of the work on specific grammatical items, the choice of rational deletion method, a specific item - set oriented method, appears to be unavoidable. In view of the established unbiased character and consequently, the supremacy of fixed-ratio deletion method over the rational method, it was decided to *combine the positive strength of the two deletion methods*. From the text passages that form part of the course content at the 10 + 2 level, no passage that satisfied the above mentioned requirements was found.

A passage forming a dialogue between a fruit seller and a customer was especially constructed to test the knowledge of the content words and *wh*-words. While designing the passage, it was ensured that the items to be deleted and tested occur after every seven words. That is, every eighth deleted word in the passage represented either an operator, a modal auxiliary, a primary auxiliary or a *wh*-word. To sustain the internal coherence of the dialogue, two full verbs ('take' and 'give') became an inescapable necessity. The dialogue constructed with interrogative sentences, statements and tag questions (Kaur, 1993) consists of 414 words (Appendix). For the

purpose of Cloze test, every eighth word was, thus, deleted to generate 50 blanks to be filled in by students.

In terms of exact words to be filled in the blanks, 15 wh-words, 13 primary auxiliaries *BE*, 8 primary auxiliaries *DO*, 3 primary auxiliaries *HAVE*, 9 modal auxiliaries and 2 full (main) verbs are required. To be specific, the deleted blanks required wh-words *which* (3), *what* (2), *how* (6), *why* (2) and *who* (2); primary auxiliaries *is* (6), *are* (6), *was* (1), *have* (3), and *do* (8); modal auxiliaries *can* (3), *will* (2), *would* (2) and *should* (2); and main verbs *take* (1) and *giving* (1) (Appendix).

3.1 Score Categorization

Apart from exact words and acceptable words, the work uses two other grammatically appropriate categories, namely non-instructionally appropriate words (i.e. words that are grammatically and contextually correct but instructionally deviant) and non-contextually appropriate words (i.e. words that are grammatically correct but contextually deviant).

Thus, all responses are classified into six categories, namely (i) exact word, (ii) acceptable word, (iii) non-instructionally appropriate word, (iv) non-contextually appropriate word, (v) incorrect word and (vi) zero word (Table 1). Zero word category represents all the blank response cases. It is, henceforth, referred to as *no response* category. *Incorrect* word category deals with all those cases of fill-in blanks which fail to generate grammatically correct constructions.

Acceptable words are such replacements that are grammatically, semantically and contextually acceptable. They generally belong to the same word class and fill the same grammatical function as the deletion word, say *what* is used for *which* (S.2 & 10), *may* for *should* (S.12), *how many* for *what* (S.34), *might* for *would* (S.35), etc. (Appendix).

A *non-instructionally appropriate* word is grammatically and contextually appropriate but allows any semantically appropriate word in the given blank. For example, *sell* is used for *have* as in "*We sell (have) bananas, apples----*". (S.3). Similarly, *costs* is used for *is* as in "*It costs (is) only one rupee per piece.*" (S.18). The use of non-instructionally appropriate words to fill in the blanks in place of exact words is probably motivated by a lack of knowledge of the exact words and also by a desire to demonstrate communicative competence. Towards this end, not only exact word is substituted but, at times, a lexical word and/or a punctuation marker also gets added to retain the sense of the sentence. For example, in the sentence "*Do you think I am a free bird?*" (S.24), not only the exact word *do* is replaced by *what do* but a compensatory punctuation marker a comma (,) is also inserted after the verb *think*: "*What do you think, I am a free bird?*". Similarly,

in the sentence "Who can say that they are unripe---?" (S.39) not only the exact word *who* is replaced by *how* but a pronoun is also inserted after the modal auxiliary *can*: "How can you say that they are unripe---?".

A *non-contextually appropriate* word allows such replacements that are grammatically correct though contextually inappropriate (Kaur, 1994). Such sentences, though grammatically correct when considered in isolation, fail to maintain cohesion (i.e. the relationship of meanings within a text which gives it semantic unity) between sentences in a Cloze passage. This makes it difficult to understand the text. To illustrate, the sentence "How can I help you, Sir?" is attempted as "How did I help you, Sir?" (S.1). And How are they sold? is replaced by Why are they sold (S. 15).

Such sentences, though grammatically correct, are inappropriate in the given context. However, such sentence constructions do stand above the 'base' level in the inter-language continuum. Therefore, such grammatically correct but contextually and instructionally deviant words have been considered so as to help us to place the students in the hierarchy of inter-language continuum.

4. Overall Performance Behaviour

The results are based on the sample of 400 '10+2 level' students studying in colleges affiliated to the Punjabi University and examined by the Punjab School Education Board on whom the Cloze test was serviced (Kaur, 1993a). Of the fifty blank word items in the Cloze test, a student, on an average, successfully attempted 42.2 per cent of the word items by exact word method; an additional 3.5 per cent items by acceptable word method; and another 7.2 per cent items by non-instructionally and/or non-contextually appropriate method. Whereas 38.0 per cent of the items were totally incorrect, 9.1 per cent of the items were left unattempted (Table 1).

The average proficiency level of a student is, thus, just above forty per cent mark by exact word score method. Even when all types of acceptable and appropriate words are also considered, it hovers around fifty per cent marks only. As many as one-eleventh of the items have not even been attempted. These facts are particularly disheartening on two counts. One, that the survey work was undertaken during the days (in the months of January-February 1993) when students had just taken the Pre-Board Test and were about to be relieved for preparatory holidays preceding the Board Examinations. Two, the sample had a tilt in favour of better students as displayed by their division in Matriculation examination: 54 per cent (206) had I division, 32.8 per cent (131) had II division and 13.2 per cent (53) had III division. The tilt in favour of I division students was due to the fact that the test was voluntary and without prior information and a number of students who were available, and probably lacked confidence, avoided taking it.

Viewed from the perspective of three scoring norms, overall performance rate is 42.2 per cent by exact word method which improves to 45.7 per cent by acceptable word method and to 52.9 per cent by appropriate word method. To further dig into the performance in terms of exact, acceptable and appropriate word methods, a number of statistical tools are used, namely, maximum score obtained by the most brilliant student, the average mean score obtained by a student, standard distribution (deviation) around mean (square root of the sum of squares of deviation from mean is divided by total number of observations), coefficient of variation (standard deviation divided by mean into 100), improvement in mean score value by acceptable word method and appropriate word method over exact word method, and t-test calculated value which helps to ascertain the reliability of mean score difference under different methods.

From a total of 50 scores, the maximum score obtained by a brilliant student by exact word method is 45, by acceptable word method is 47 and by appropriate word method is 49 (Table 1). Mean score of a representative student is 21.12 (i.e. 42.24 per cent by doubling the scores) by exact word method, 22.85 (i.e. 45.70 per cent) by acceptable word method and 26.44 (i.e. 52.88 per cent) by appropriate word method. The incremental behaviour of mean scores, thus, differs from that of maximum scores with different scoring methods. The mean score norm improves initially marginally by 1.73 score points (8.17 per cent) between exact word method and acceptable word method and, later, substantially by 5.32 score points (25.19 per cent) between acceptable and appropriate word methods.

The t-test values reveal that the improvement in mean score values in both the cases is statistically significant (Table 1). In other words, acceptable as well as appropriate word methods yield significantly higher scores compared to that yielded by exact word method. The statistical significance is partly attributable to (a) and improvement in the mean values with change in scoring norm and (b) a fall in the value of variation around mean values as the scoring norm is changed from exact (55.35 per cent) to acceptable (55.01 per cent) and appropriate word methods (48.49 per cent).

Does this analysis have any implication for the word choice method? Yes. A small rise of 8.19 per cent in the mean score value and a nominal fall in variation (0.61 per cent) around it as a consequence of change from exact to acceptable word implies that better students are at an advantageous position with the change in the scoring method. In contrast, when appropriate word method is adopted, the gain of 25.19 per cent in mean score value and a fall of 12.39 per cent in variation around it implies a substantial gain to an average student, more so to a weak student. In other words, *whereas exact and acceptable word scoring methods appear to be good substitutes of each other, appropriate word scoring method substantially favours those students*

who are slow in learning but are willing to explore non-instructional and non-contextual use of their limited inter-language.

Table 1

Probabilities of exact, acceptable and appropriate word entries in the Cloze passage, mean and maximum scores obtained and other related features as displayed by 400 students, 1993.

No Response	word entries					
	Incorrect	Appropriate		Acceptable	Exact	
		Non- Contextual	Non- Instructional			
1	2	3	4	5	6	
Probability of score	0.091	0.381	0.065	0.007	0.034	0.422
		score norm				
		Appropriate		Acceptable	Exact	
Maximum score		49		47	45	
Mean score		26.44		22.85	21.12	
Mean score difference over 'exact' score norm						
In absolute value		5.32		1.73		
In per cent terms		25.19		8.19		
t-test on mean difference		5.92		2.01		
Standard deviation		11.69		12.57	12.82	
Coefficient of variation (S.D./mean*100)		48.49		55.01	55.35	
Fall in coefficient of variation over 'exact' score norm						
In absolute terms		6.86		0.34		
In per cent terms		12.39		0.61		
Correlation coefficient between 'exact' norm and acceptable norm				0.996		
appropriate norm		0.982				

Source: Field survey conducted in January-February, 1993 from seven colleges affiliated to the Punjabi University, Patiala. For details refer Kaur (1993a).

This inference draws additional support from the relatively low correlation between scores obtained by 400 students in terms of exact and appropriate scoring norms ($r=0.982$) compared to those between exact and acceptable scoring norms ($r=0.996$). Further support to this inference flows from the distributional pattern of students arranged according to scoring classes for each of the three scoring norms, namely those getting zero scores, 1-10 scores, 11-20 scores, 21-25 scores, 26-30 scores, 31-35 scores, 36-40 scores, and 40-50 scores (Table 2). Whereas the use of acceptable norm (compared to exact norm) helps the maximum number of 16 (61 minus 45) students belonging to a better score class of 31-35 to move further upwards, the use of appropriate norm helps the maximum number of 36 (70 minus 34) students to move upwards from a poor 1-10 score class (Table 2). It is customary to identify three comprehension levels with the help of Cloze scores, namely *frustration*, *instructional* and *independent*. Whereas a student belonging to the *independent level* can independently comprehend the language of Cloze passage, that at the *frustration level* finds the passage too difficult to read and comprehend it, and that at the *instructional level* requires marginal instructional support for this task. However, the quantification of these levels differs depending upon the nature of the passage, student population, their background and language being assessed. Accordingly, different research works have used different scoring parameters. For instance, for Bormuth (1968) the students who score 90 per cent and above are at the *independent (fluency) level*; the cut of level is at 75 per cent and above for Sareen (1987) and at 62 per cent and above for Agnihotri and Sahgal (1987). Similarly, the upper limit for *frustration level* varies too. It is associated with below 75 per cent (Bormuth, 1968), below 50 per cent (Sareen, 1987) and below 48 per cent (Agnihotri and Sahgal, 1987).

Agnihotri and Sahgal (1987) found that the general proficiency level of the students in their mother tongue (Hindi) is about 50 per cent. The performance of about 90 per cent of the students were recorded either at the instructional level or at the frustration level. In contrast, Sareen (1987) found only 23 per cent of the 13 EFL learners from Kampuchea to be at frustration level and 38.5 per cent at the instructional level.

In this work, the cut of point for these levels is considered to be a score of 20 (40 per cent) or less for *frustration level*, between a score of 21 and 35 (41 to 70 per cent) for *instructional level* and a score of 36 and above (71 per cent and above) depicts the *independent level*. In terms of these comprehension criteria, about half of the students belong to (in terms of exact and acceptable score norms) the frustration level, about one-third to instructional level and about one-fifth to independent level (Table 2). In terms of appropriate scoring norm, a discernible shift (of

about 10 per cent) of students is observed from frustration level to instructional level and, in turn, to independent level.

Table 2

Relative and cumulative performance frequency by 400 students of 10 + 2 level from seven colleges affiliated to the Punjabi University, Patiala, 1993.

Word correction method	Performance frequency classes								Total
	0	1-10	11-20	21-25	26-30	31-35	36-40	40-50	
	< Frustration zone >		< Instructional zone >			< Independent zone >			
Frequencies									
Exact	11	70	123	44	39	61	35	17	400
Acceptable	11	65	117	32	42	45	53	35	400
Appropriate	10	34	117	36	36	45	38	84	400
Relative frequencies									
Exact	2.75	17.50	30.75	11.00	9.75	15.25	8.75	4.25	100
Acceptable	2.75	16.25	29.25	8.00	10.50	11.25	13.25	8.75	100
Appropriate	2.50	8.50	29.25	9.00	9.00	11.25	9.50	21.00	100
Cumulative frequencies									
Exact	2.75	20.25	51.00	62.00	71.75	87.00	95.75	100.00	
Acceptable	2.75	19.00	48.25	56.25	66.75	78.00	91.25	100.00	
Appropriate	2.50	11.00	40.25	49.25	58.25	69.50	79.00	100.00	

Note: Based on fifty fill-in blanks from the Cloze passage as attempted by 400 students.

Source: Field Survey conducted in January-February, 1993 from seven colleges affiliated to the Punjabi University, Patiala. For details refer Kaur (1993a).

Depending upon the purpose of evaluation, thus, all the three, two or any one of the scoring norms may be used. As scoring norm is relaxed, initially, it proves beneficial to better and mediocre score class students (i.e. the set of students representing instructional level), and , later to, relatively poor score class students (i.e. the set of students representing frustration level) as well. The use of all the three scoring norms in a classroom by a pedagogue is likely to help identify different sets of students for the purpose of special drills and pattern practices. For the purpose of overall evaluation at the end of the year, it is, however, advisable to use only exact scoring norm, or at the most, acceptable scoring norm.

Table 3

Probability of performance in a Cloze test by 400 students of 10 + 2 level affiliated to the Punjabi University, Patiala, 1993 according to socio-achievement indicators.

Indi- cators	word					
	No Response	Incorrect	Appropriate	Acceptable	Exact	
			Non- Contextual	Non- Instructional		
1	2	3	4	5	6	7
Division: An Achievement Index (216 I, 131 II, 53 III)						
I	0.060	0.298	0.065	0.009	0.044	0.524
II	0.115	0.470	0.065	0.006	0.026	0.318
III	0.155	0.495	0.065	0.002	0.017	0.266
Course Choice (206 arts, 75 science, 119 commerce sample)						
Arts	0.126	0.496	0.063	0.003	0.024	0.288
Sc.	0.047	0.240	0.068	0.013	0.045	0.587
Com.	0.057	0.269	0.065	0.009	0.048	0.552
Instructional medium (255 Punjabi, 13 Hindi, 132 English)						
Pun.	0.112	0.454	0.063	0.004	0.027	0.340
Hin.	0.097	0.400	0.070	0.005	0.025	0.403
Eng.	0.050	0.237	0.067	0.012	0.050	0.584
Residential background (109 Villages, 131 Town, 160 City)						
Vil.	0.154	0.506	0.066	0.004	0.016	0.254
Town	0.060	0.377	0.060	0.006	0.039	0.458
City	0.073	0.297	0.068	0.010	0.044	0.508
School Organization						
Pub.	0.054	0.262	0.062	0.009	0.044	0.569
Pvt.	0.064	0.369	0.070	0.006	0.039	0.452
Gvt.	0.115	0.428	0.064	0.006	0.029	0.357
School Location						
Vil.	0.160	0.517	0.063	0.004	0.015	0.241

5. Impact of socio-linguistic and achievement indicators on Cloze performance

The socio-linguistic background-cum-achievement influences are associated with the educational institution at the Matriculation level, namely their management (Convent, Private or Government), its locational base (village, town or city), individual achievement attributes as displayed by attainment of I, II or III division in the Matriculation examination, the ability to get admission in the desired course (science, commerce or arts), exposure to the English language and preference for a particular medium of instruction (English, Punjabi or Hindi). Sex, language spoken at home, and residential location, viz. village, town and city, are some other variables that may be taken note of (Table 3).

5.1 Impact of past achievement on Cloze performance

As expected, division in Matriculation examination has a significant bearing on the attained proficiency level of the students. The performance rate of the students with I division is twice higher than that of III division students. This is amply brought out both by exact word method and acceptable word method. For instance, by exact word method an average I division student attempts 26.2 (52.4 per cent) of the items correctly compared to 13.3 (26.6 per cent) attempted by his III division counterpart (Table 3).

Obviously, the average performance rate of a I division student (52.4 per cent) is far superior to the overall average performance rate (42.2 per cent) in Cloze test. Interestingly, the latter still outweighs the average performance rate of II division (31.8 per cent) and III division (26.6 per cent) students. Accordingly, only I division students appear to have the potentiality to cross the 50 per cent threshold level of proficiency. Even I division students, interestingly, display a no response rate of 6 per cent. (Table 3).

A score class-wise distribution of sample students helps to ascertain the relative weights of frustration, instructional and independent levels among the students who had obtained I, II and III divisions in the Matriculation examination. Frustration level is the dominant abode of II and III division students. It is the instructional level for the I division students (Table 4). For instance, 81.13 per cent of the students who had obtained III division in the Matriculation examination are at the frustration level under exact word method (79.25 under acceptable word). Even among II division students, as many as 70.23 per cent under exact method and 67.94 per cent under acceptable method belong to the frustration level. Even among the I division students 31.94 per cent (under exact method) are found to be at the frustration level. The independent comprehension level is attained only by one-fifth (20.83 per cent) of the I

division students under exact score method. Their weight substantially improves to 34.72 per cent under acceptable score method. The other-wise nominal presence of II and III division students at the independent level also improves under the acceptable method to 7.63 and 5.66 per cent respectively (Table 4).

Table 4

Division-wise relative and cumulative performance frequency by 400 students of 10+2 level from seven colleges affiliated to the Punjabi University, Patiala, 1993.

Performance frequency classes									
	0	1-10	11-20	21-25	26-30	31-35	36-40	40-50	Total
Division	< Frustration zone >		< Instructional zone >			< Independent zone >			
Score norm: 'Exact' word procedure									
Relative frequency									
I	1.39	6.02	24.54	11.57	12.96	22.69	13.43	7.41	100.00
II	3.82	29.77	36.64	11.45	6.87	6.87	3.82	0.76	100.00
III	5.66	33.96	41.51	7.55	3.77	5.66	1.89	0.00	100.00
Cumulative frequency									
I	1.39	7.41	31.94	43.52	56.48	79.17	92.59	100.00	
II	3.82	33.59	70.23	81.68	88.55	95.42	99.24	100.00	
III	5.66	39.62	81.13	88.68	92.45	98.11	100.00	100.00	
Score norm: 'Acceptable' word procedure									
Relative frequency									
I	1.39	5.09	22.22	7.41	14.35	14.81	20.37	14.35	100.00
II	3.82	29.01	35.11	10.69	4.58	9.16	5.34	2.29	100.00
III	5.66	30.19	43.40	3.77	9.43	1.89	3.77	1.89	100.00
Cumulative frequency									
I	1.39	6.48	28.70	36.11	50.46	65.28	85.65	100.00	
II	3.82	32.82	67.94	78.63	83.21	92.37	97.71	100.00	
III	5.66	35.85	79.25	83.02	92.45	94.34	98.11	100.00	

Note: Based on fifty fill-in blanks from the Cloze passage as attempted by 400 students with I (216), II (131) or III (53) division in Matriculation.

Source: Field survey conducted in January-February, 1993 from seven colleges affiliated to the Punjabi University, Patiala. For details refer Kaur (1993a).

In other words, the conventional ranking device of proficiency in terms of I, II and III division students is broadly consistent with the three comprehension levels.

5.2 Relationship between course choice and Cloze performance

Apart from division, the other variable that is closely associated with Cloze performance is course specialization. There are three streams of course specializations that are offered at 10 + 2 level in the Degree colleges, namely arts, science and commerce. Generally, the best students opt for science stream, followed in the descending order by commerce and arts streams. It is for this reason that the performance rate (58.7 per cent, assessed in terms of 'exact' score method) of the students belonging to science group is almost double than that of arts group (28.8 per cent) but is well competed by those of commerce group (55.2 per cent) (Table 5).

To ascertain the relative weights of frustration, instructional and independent levels among the students who opted for arts, science and commerce courses, students are arranged according to score classes (Table 5). Frustration level is the dominant abode of the dominant student group, arts students. In contrast, instructional level is the dominant abode of commerce and science students. A section of these students also cultivate the independent level. For instance, 80.10 per cent of arts students under exact (77.18 per cent under acceptable) word score method are in the frustration level (Table 5). These students are unable to read and comprehend the Cloze passage unless special attention is devoted to these students. In contrast, about four-fifths of science and commerce students who represent instructional and independent levels can well survive with the current instructional material. Thus, there is a need to specially attend to the content base of the syllabus being serviced to arts students.

5.3 Relationship between medium choice and Cloze performance

Similarly, proficiency in English is associated with the choice of the medium of examination (namely Punjabi, Hindi or English) exercised by the students. Obviously, the students opting for English medium attain the highest level of English proficiency (58.4 per cent) compared to those opting for Hindi (40.3 per cent) and Punjabi mediums (34.0 per cent).

Punjabi is the State language and the mother tongue of the majority. Its poor association with proficiency in English, an international language, is indeed discouraging and perturbing (Table 3). This may have something to do with their residential and social background. English proficiency level is observed to be substantially poor among village based students (25.4 per cent) compared to town based students (45.8 per cent) and city based students (50.8 per cent). Similarly, it is the lowest among students passing out

from Government schools (35.7 per cent) compared to those from private schools (45.2 per cent) and public schools (56.9 per cent). A broadly similar behaviour is displayed even when acceptable score method and appropriate score method are adopted (Table 3).

Table 5

Course-wise relative and cumulative performance frequency by 400 students of 10 + 2 level from seven colleges affiliated to the Punjabi University, Patiala, 1993.

	← Performance frequency classes →								
	0	1-10	11-20	21-25	26-30	31-35	36-40	40-50	Total
Course	< Frustration zone >			< Instructional zone >			< Independent zone >		
Score norm: 'Exact' word procedure									
Relative frequency									
Arts	4.37	29.61	46.12	8.25	5.83	2.91	1.46	1.46	100.00
Science	0.00	2.67	16.00	12.00	16.00	26.67	18.67	8.00	100.00
Commerce	1.68	5.88	13.45	15.13	12.61	29.41	15.13	6.72	100.00
Cumulative frequency									
Arts	4.37	33.98	80.10	88.35	94.17	97.09	98.54	100.00	100.00
Science	0.00	2.67	18.67	30.67	46.67	73.33	92.00	100.00	100.00
Commerce	1.68	7.56	21.01	36.13	48.74	78.15	93.28	100.00	100.00
Score norm: 'Acceptable' word procedure									
Relative frequency									
Arts	4.37	27.67	45.15	6.80	6.80	3.88	2.91	2.43	100.00
Science	0.00	1.33	13.33	13.33	13.33	16.00	30.67	12.00	100.00
Commerce	1.68	5.88	11.76	6.72	15.13	21.01	20.17	17.65	100.00
Cumulative frequency									
Arts	4.37	32.04	77.18	83.98	90.78	94.66	97.57	100.00	
Science	0.00	1.33	14.67	28.00	41.33	57.33	88.00	100.00	
Commerce	1.68	7.56	19.33	26.05	41.18	62.18	82.35	100.00	

Note: Based on fifty fill-in blanks from the Cloze passage as attempted by 400 students belonging to arts (206), science (75) and commerce (119).

Source: Field survey conducted in January-February, 1993 from seven colleges affiliated to the Punjabi University, Patiala. For details refer Kaur (1993a).

6. Concluding Observations

Some of the interesting findings are that (a) the general proficiency attained by a student is susceptible to score measurement method, its level is 42.24 per cent by the 'exact word' method, 45.70 per cent by the 'acceptable word' method and 52.88 per cent by 'appropriate word' method; (b) the variability around the mean performance rate is also susceptible to word restoration method; it is maximum with 'exact word' method and minimum with 'appropriate word' method; (c) in terms of attained proficiency level, one-half of the sample is in the zone of *frustration*, about one-third is in *instructional* zone and only the residual are in *independent* zone; and (d) the salient attributes of the sample set in the *frustration* zone are: background - rural, course choice - arts, school - government, achievement - III division; and those in the *independent* zone are: background - city bred, education - public school, course opted - science or commerce, and achievement index - I division.

APPENDIX

Complete the following dialogue between a fruit seller and a customer with *wh-words* (Which, why, what, how, etc.) or *modal/auxiliaries* (is, am, are, do, does, will, would, shall, should, has, have etc.) or the *correct form of the verbs supplied in the brackets*. Add negation where necessary.

"Good morning, Sir. Please step in. Why haven't you come to buy fruit for so many days? Well Sir, will you tell me how (1) -----I help you today? Please tell me (2) ----- fruit would you like to have? We (3) ----- bananas, apples, oranges, grapes, pineapples, and papaya. (4) ----- would you like to take home today? (5) -----n't the fruits fresh? What a trouble I (6) ----- (*take*) while selecting them in the main market! (7) ----- can I dissatisfy my customers. I know (8) ----- variety will be liked by them"

"Well, (9) ----- you have fresh mangoes?"

"Yes Sir, here. (10) ----- variety would you like to have? Dusseri (11) ----- really fresh and sweet. It's just arrived. (12) ----- I open a new box for you? (13) ----- you see this box? Straight from orchard! (14) ----- many pieces do you want?"

"Tell me (15) ----- are they sold? You charge more".

"You (16) ----- mistaken. You are my regular customer. How (17) ----- I do that with you, Sir? It (18) ----- only one rupee per piece, very cheap'

"(19) ----- you take seventy paise? I won't be (20) ----- (*give*) more than that".

"Well, eighty paise, Sir."

"(21) ----- they sweet? Last time they were sour".

"(22) ----- do you worry? I am here. You (23) ----- return them all if they are sour".

"(24) ----- you think I am a free bird? (25) ----- I nothing else to do this evening?"

"(26) ----- be upset, Sir. Last time the variety (27) ----- different. As you are also aware, it (28) ----- the starting of the mango season. But (29) ----- can the Dusseri variety taste sour? It (30) ----- the best variety available in the market. (31) ----- don't you taste it?"

"No, thanks. I (32) ----- n't want to spoil my hands just now."

"(33) ----- many pieces do you want?"

"Only ten."

"(34) -----? Only ten, Sir! But I thought you (35) ----- buy at least two dozens. Dusseri mangoes (36) ----- really very fresh and sweet to eat. (37) ----- n't they also smell good, Sir? Moreover, why (38) ---you notice the golden colour they have? (39) ----- can say that they are unripe and (40) ----- not worth their price? Oh well, Sir (41) ---I pack twenty pieces?"

"Not today. I (42) ----- come again tomorrow. (43) ----- much do I have to pay you? (44) ----- it seven rupees?"

"Not at all. It (45) ----- eight rupees, Sir."

"Look here young man, (46) ----- n't you sold them for seventy paise each? (47) ----- n't they come round to only seven rupees?"

"(48) ----- agreed to seventy? I said that I (49) ----- take eighty paise. It is eight rupees, (50) ----- n't it?"

"All right. I have no mood to argue with you."

Bibliography

Agnihotri, R.K & Sahgal, A. 1987. "Readability levels of a Hindi text: A study using Cloze procedures". *Indian Journal of Applied Linguistics*, Vol. 13, No. 1: 65-71.

Alderson, J.C. 1980. "Native and non-native speaker performance on Cloze tests". *Language Learning*, Vol. 30, No. 1: 59-76.

Alderson, J.C. 1983. "The Cloze procedure and proficiency in English as a foreign language" in Oller J. W. Jr. (ed.). *Issues in language testing research*, pp. 205-217. Rowley, Massachusetts: Newbury House Publishers.

Angoff & Sharon. 1971. in J.C. Alderson (1980), *Language Learning*, Vol. 30 No. 1.

Bormuth, J.R. 1967. "Comparable Cloze and multiple-choice comprehension test scores". *Journal of Reading*, Vol. 10, 291-299.

- Bormuth, J.R. 1968. "Cloze test readability: Criterion reference scores". *Journal of Educational Measurement*, Vol. 5, 189-196.
- Bachman, L. 1982. "The trait structure of Cloze test scores". *TESOL Quarterly*, Vol. 16, 61-70.
- Brooks, N. 1964. *Language and Language Learning*. New York: Harcourt Brace.
- Brown, J.D. 1983. "A closer look at Cloze: validity and reliability", in J.W. Oller, Jr. (ed.). *Issues in Language Testing Research*, (237-250). Rowley, Massachusetts: Newbury House Publishers.
- Carroll, J.B & Carton, A.S & Wilds, C.P. 1959. *An investigation of Cloze items in the measurement of achievement in foreign languages*, (A research report conducted under a grant from the College Entrance Examination Board, Cambridge), Massachusetts: Graduate School of Education, Harvard University, as quoted in Oller, J. and C. Conrad (1971), "The Cloze technique and ESL proficiency", *Language Learning*, Vol. 21, No. 2, 183-195.
- Chavez-Oller, M.A., Chihara, T., Weaver, K.A & Oller, J.W. Jr. 1985. "When are Cloze items sensitive to constraints across sentences?". *Language Learning*, Vol. 35, No. 2, 181-205.
- Harris, D. 1969. *Testing English as a Second Language*. New York: McGraw-Hill.
- Irvine, P., Atai, P & Oller, J.W. Jr. 1974. "Cloze, dictation, and the test of English as a foreign language". *Language Learning*, Vol. 24, No. 2, 245-252.
- Kaur, Setjit. 1993. "Tag Questions: An Empirical Analysis of Punjabi Interference". *International Journal of Dravidian Linguistics*, Vol. 22, No.2, 93-101.
- Kaur, Setjit. 1993a. *Aspects of Pedagogical Linguistics: A Case Study of English in Punjab*, Unpublished Ph.D. Thesis. Patiala: Department of Anthropological Linguistics and Punjabi Language, Punjabi University.
- 1994. "Auxiliary Preference and Performance Behaviour of Punjabi Subjects under Contextualized and Non-Contextualized Situations". *International Journal of Dravidian Linguistics*, Vol. 23, No.2, 99-108.
- Khanna, A.L & Agnihotri, R.K. 1982. "Language, achievement and some social psychological variables". *CIEFL Bulletin*, Vol. 18, Nos. 1 & 2, 41-51.
- Lado, R. 1961. *Language Testing*. New York: McGraw-Hill.
- 1964. *Language Teaching: A Scientific Approach*. New York: McGraw-Hill.
- 1986. "Native speaker performance and the Cloze test: A quest for validity", in P.H. Fries (ed.). *Towards an understanding of language*, pp. 331-342. Amsterdam, The Netherlands: John Benjamins.
- Markham, D.P. 1985. "The rational deletion Cloze and global comprehension in German". *Language Learning*, Vol. 35, No. 3: 423-430.

- Oller, J.W. Jr. & Conrad, C.A. 1971. "The Cloze technique and ESL proficiency". *Language Learning*, Vol. 21, No.2: 183-195.
- Oller, J.W. Jr. & Inal, N. 1971. "The Cloze test of English prepositions". *TESOL Quarterly*, Vol. 5: 315-326.
- Oller, J.W. Jr., Bowen, J.D., Dien, T.T & Mason, V.W. 1972. "Cloze tests in English, Thai, and Vietnamese: native and non-native performance". *Language Learning*, Vol. 22, No. 1: 1-15.
- Oller, J.W. Jr. 1973. "Cloze tests of second language proficiency and what they measure". *Language Learning*, Vol. 23, No. 1: 105-118.
- 1975. "Cloze, discourse, and approximations to English", in *On TESOL 75: New Directions in Second Language Learning, Teaching and Bilingual Education*, pp. 345-355. Washington, DC: TESOL.
- 1979. *Language Tests at School*. London: Longman.
- Porter, D. 1978. "Cloze procedure and equivalence". *Language Learning*, Vol. 28, No. 2: 333-341.
- Rivers, W. 1968. *Teaching Foreign Language Skills*. Chicago: University of Chicago Press.
- Ryan, E.B & Semmel, M.I. 1969. "Reading as a constructive language process". *Reading Research Quarterly*, Vol. 5: 59-83.
- Rye, J. 1982. *Cloze procedure and the teaching of reading*. London: Heinemann.
- Sareen, S.K. 1987. "Cloze across the curriculum in EFL programmes". *Indian Journal of Applied Linguistics*, Vol. 13, No.1: 11-23.
- Sciarone, A.G & Schoorl, J.J. 1989. "The Cloze test: or why small isn't always beautiful". *Language Learning*, Vol. 39, No.3: 415-438.
- Taylor, W.L. 1953. "Cloze procedure: a new tool for measuring readability". *Journalism Quarterly*, Vol. 30: 415-438.
- 1956. "Recent development in the use of Cloze procedure". *Journalism Quarterly*, Vol. 33: 42-48.
- Widdowson, H.G. 1979. *Explorations in Applied Linguistics*. Oxford: Oxford University Press.

BENGALI VERB - AN ASPECTUAL APPROACH

ALIBHA DAKSHI
Visva Bharati, Santiniketan

Introduction

The present study represents a comprehensive account of the semantic analysis of Bengali verbs - an approach in terms of aspectual function which is seldom discussed by the scholars. Therefore, it is an attempt to analyse the Bengali verb structure to show how the aspectual function is a part of the Bengali verb system. Although the aspectual potentialities are to be understood from the viewpoint of universality, in my present work, the applicability of aspect in judging through the verb formation is investigated.

This paper is divided into three parts. In the first, the discussion is made on the basic concept of aspect and its historical background. In the second, the description is made on the formation of Bengali verbs owing to their aspectual behaviour. And in the third, my purpose is to show the various usages of aspectual meanings taking examples from Bengali literature.

Definition of Aspect

'Aspect' is essentially a semantic term-the subject which has been touched upon by many linguists in recent years. This term is an English translation from a Russian word *vid*. The German counterpart for aspect is *aktionsart* (actio verbi). These three terms more or less signify the same. According to Quirk, Greenbaum, Leech and Svartvik 'aspect refers to the manner in which the verb action is regarded or experienced'¹ (1972:p 90). It simply describes 'the kind of action or state'. The kind of action as Gray² (1939) has pointed out may be 'complete' or 'incomplete' in itself or it may be 'instantaneous' or 'momentary' etc. Gray has further stated that meaning of many verbs by themselves denotes instantaneous or durative action, for example, the English verb *strike* itself gives the idea of 'instantaneous' whereas *beat* is 'durative' aspect, the very nature of the verb shows the continuous action.

1 Quirk, Greenbaum, Leech and Svartvik. 1972. *A Grammar of Contemporary English*. London: Longman, 1972, p 90.

2 Louis, H. Gray. 1950. *Foundations of Language*. New York. (1st edn. 1932, pp. 203-223). (In this book he has very rigorously discussed the subject on aspect as a grammatical category showing examples from different languages such as English, Greek, Sanskrit, Latin, Hebrew and Indo European languages also).

The concept of aspect is very old and at the same time it is a universal feature common to almost all languages of the world. It is, thus, generally assumed that the Indo-European languages had aspect of various verbal forms for indicating tense-aspect relations which are conceived as pervading various aspectual insights viz. perfective, imperfective, aorist and, so on. For instance, Greek *Khronoi*, Latin *tempus* will serve the purpose of aspect along with tenses. Among Sanskrit grammarians, Yaska (5th century B.C) was the first who put emphasis on the semantic interpretation of verbs. Panini (4th century B.C.) in his grammar explains in detail the uses of tenses and moods. Some of his technical terms used in discussing the usages of tenses may lead us to think that some conceptions of aspect are expressed by these terms.

In fact, the term 'aspect' is a twentieth century coinage. The idea of aspect has been developed very recently from the analysis of Russian verbs where the verbs are morphologically distinguished and clear-cut in respect of their aspectual function such as (i) *pročital* (perfective) and (ii) *čital* (imperfective); both can be translated into English as *I read* (past). In (i) the action was completed and in (ii) the action not yet completed. So perfective is the 'marked' term by prefix *pro-* in contrast with imperfective which is 'unmarked'. As a matter of fact, these principles of aspectual function in Russian verbs can be applied to other languages also.

Generally speaking, verbal form, whether finite or non-finite (infinitive, participle and gerund), expresses two ideas simultaneously; one is 'tense' and the other, 'aspect'. Tense primarily expresses 'the time of action' and 'aspect' expresses 'the kind of action'. The word 'tense' is a grammatical term. It describes the time relations generally known as present, past and future. As Lyons says, 'the essential characteristic of the category of tense is that it relates the time of action, event or state of affairs referred to in the sentence to the time of utterance'³. Present tense refers to a situation 'located temporarily as simultaneous with the moment of speaking'; the past tense indicates the temporal occurrence 'as located prior to the moment of speaking', and future tense signifies 'as located subsequent to the moment of speaking'. So far as Bengali is concerned tense is expressed by suffixes along with personal terminations.

On the other hand, 'aspect' is the semantic category of the verb. It denotes 'kinds of action', such as, complete or incomplete, instantaneous, resultative, narrative, habitual etc. and is expressed by the formation of the verb stem. The verb stem is conceived as the base in delineating with an event which is simultaneous with the act of speaking i.e. *imperfect* or an event which is anterior to the act of speaking i.e. *perfect* and the other one

3 John Lyons. 1968. Reprint 1969, 1971,...1979. *Introduction to Theoretical Linguistics*. Pp. 305.

which is known as *aorist* by Greek grammarians and in recent years, it is used in the sense of *indefinite*. We find that in Bengali, the indefiniteness in present, past and future tenses is 'unmarked' where the markers for the present, past and future tenses are added directly to the root but for imperfect and perfect aspects, the verb stems are marked by suffixes. For instance, in Bengali, the conjugational system of verb stem along with suffixes has two functions: (i) one for the tense and (ii) the other for the aspectual meanings. It is seen that the different suffixes are used for each tense system, and to denote aspect, the verb stems are formed by the addition of stem formative affixes. As for example, in *Sadhu* (literary) Bengali *balitechilām* (I was telling), here -*chil*- indicates past tense and -*ām* denotes first person and singular or plural number and the aspectual meaning of 'incompletedness' is expressed by the infix -*ite*- added to the root, *bal* 'to tell'. Similarly *baliyāchilām* (I had told), here -*chil*- indicates past tense and -*ām* for the first person and singular or plural number and -*iyā*, the infix indicates the aspectual meaning of 'completed' action added to the root. To distinguish with the verb form *balilām* (I told) which means the action happened in the past and expressed by the infix -*il*- and -*ām* for the first person, singular or plural number. This is, of course a narrative and thus indefinite or aorist aspect which is unmarked. So when verb form is analysed, it should be looked upon from two points of view i.e. tense and aspect.

Ancient and Modern Views on Aspect

It is necessary to show how the concept of aspect has evolved from ancient times down to the present day. Though the term 'aspect' is a modern one, its concept can be traced back from ancient times. It is to be noted that both in India as well as in Europe, the idea of aspect was not absent. As the concept of aspect is universal, it is believed that the ancient grammarians, like Panini in India and Dionysius Thrax in Greece have expressed something related to aspect.

In ancient times Greek and Sanskrit grammarians were conscious of the semantic functions of verbs, what we, at present, term as 'aspect' but they did not discuss the subject at great length in their respective grammars. Most of them explained the concept of aspects in terms of tenses.

Greek Grammarians' Views on Aspect

It can be said that the Socratic school (5th century B.C.) is the pioneer in speculating the nature of different parts of speech in Greek language. Among them, Aristotle⁴ in his discussion on 'time significance' has

4 Richard Mokeon. "Aristotle's conception of Language", *Classical Philology*, Vol. 41, 1946, pp. 193-206, Vol. 42, 1947, pp. 21-50; cf. also Robin's History of Linguistics p.29.

selected some points on semantic functions of Greek tenses which perhaps roughly correspond to the modern concept of aspect as being explained as incomplete (present and imperfect) and complete (perfect and pluperfect) tenses.

Next comes the Stoic school. According to them, in the conjugational system of Greek verbs, there are two tenses viz. *khronoi horismenoi* (*tempora finita*) and *khronoi aoristoi* (*tempora infinita*). The former can be subdivided into two i.e. *a- teles* (continuous action) referring to imperfective aspect and *teleios* (completed action) referring to perfective aspect; again *a- teles* represents present and imperfect and *teleios* represents perfect and pluperfect.

Historically speaking, Stoic grammarians made a little advancement from that of Aristotle's theory on tense system in delineating a novel idea of combining the aspect and time relation in the tense system and as such, it is believed that the concept of aspect for the modern generation first emerged out of the content of the tense system of Greek in ancient times. Dionysius Thrax⁵ (2nd century B.C) modified the classification of these into three tenses, such as, present, past and future and further subdivided them aspectually as continuous, complete and indeterminate. While explaining tenses, he suggests present and imperfect as 'continuative', perfect as 'complete' and pluperfect as 'complete in the past'. He suggests 'aorist' as 'indeterminate' characterising the indefinite action in the past.

Sanskrit Grammarians' Views on Aspect

Sanskrit grammarians paid a little attention to the subject. They, on the other hand, discuss various uses of tense and mood. Yaska (5th century B.C) was the first among Sanskrit grammarians who paid importance on the semantic function of verbs on the basis of content. He has defined 'verb' as *bhāvapradhānam ākhyātam*⁶ where he uses the word *bhāva* which may signify the aspect or manner of action. According to him, a verb (*ākhyāta*) is that in which *bhāva* is the *prima facie* feature in bringing about the action (*kriyā*). Yaska's definition of verb throws some light on the basic concept of aspect.

After Yaska, Panini⁷ in his grammar explains in detail the uses of tenses and moods by means of certain terms. These are *Kriyāprabandha* (performing

5 The consulted book is G. Uhlig. 1883. Dionysii Thracis, feta Grammatica. Leipzig.

6 Nirukta 1.1. According to Yaska the definition of verb is *bhava pradhanam akhyatam* - the word 'bhava' may mean aspect. Macdonell (B. D.2, 121) translates it thus: The verb (akhyata) has becoming as its fundamental meaning (pradhana), cf. Sarup (The Nighantu and the Nirukta, Delhi, 1962, p.5) and Ghosh (Aspects of Pro-Paninian Sanskrit grammar, Indian Research Institute, Calcutta, 1945, p.343, cf. Some Notes on Yaska by P.D. Gune, IA, Vol. 45, 1916 pp. 158-193. According to Yaska a verb (akyata) is that in which the action is the basic feature (*bhāva pradhānam yasmin tat*).

7 Panini. Astadhyay, III. 1, 22, III.3,135, III.3, 139.

an action with certainty), *kriyātipatti* (non-completion of an action) etc. For indicating tense and mood, his rules of ten *lakāra* such as *laṭ*, *liṭ*, *luṭ*, *lṛṭ*, *leṭ*, *lot*, *lan*, *lin*, *luṇ* and *lṛṇ* are used signifying some indicatory signs for various tenses, moods and aspects of the verbal system. Sanskrit verb stem is formed by adding affixes to the root. 'The semantic function of verb stem⁸ is expressed by means of the lexical meaning conveyed by the affixes (*vikaraṇa*) attached to it'. For instance, on the analysis of some of the types, it is examined that verbs belonging to *divādi* class express durative, cursive or imperfective action (= *haryāmi* 'take pleasure in'); sometimes this can give some idea of continuous action also (= *pacyate* 'is being cooked'); iterative or repetitive actions are expressed by *jubotyādi* class of verbs (= *bibheti* 'he frightens'); similarly *adādi* class of verbs denotes momentary action (= *arodīt* 'he cried out'); sometimes the verbs formed by adding the affix (Sanskrit- *cch-*, Latin- *sco-*, Greek- *sk/e-*) show the beginning of inchoative action and sometimes this also shows terminative action (= *gacchati* 'goes off', *pr̥cchati* 'asks at a particular moment'). Likewise some of the verbs formed by nasals representing the result or end of an action refer to the idea of terminative action (= *śṛṇoti* 'he hears' *kṛṇāti* = 'he buys'). It appears that the ten *gaṇas* are invented keeping in view with the different aspectual meanings of a verb and that is why the ten different *vikaraṇas* - representing ten different types of *gaṇas* signify various aspectual meanings which are lost now a days.

After Panini comes Bhartrihari⁹ (A.D. 650) who in his *Vākyapadīya* discusses aspectual meaning of a verb in one of the fourteen sections of the third *kāṇḍa* called *upagraha samuddheṣa*. The term *upagraha* is found in Katyayana's *Vārtika* and in Patanjali's *Mahābhāṣya*.

The ancient grammarians' concept regarding aspect was followed up to the medieval period. The result achieved by the ancient Greek and Sanskrit grammarians is brought back by the modern scholars, but with some modifications. Following this tradition coming down to the nineteenth century, the Sanskrit and Greek scholars like Whitney, Brugmann, Delbruck, Meillet Chantaine etc. did not pay much attention towards this subject, though they were aware of the fact that their classification of tenses of Sanskrit and Greek imperfect, aorist and perfect are primarily considered on semantic categories.

Modern Views on Aspect

As far as we understand, it was Sapir¹⁰ who in his book *Language* (1921) used the term 'aspect' as a grammatical category. Later on, Otto

8 Banerjee, S.R. 1983. *Indo European Tense and Aspect in Greek and Sanskrit*, Calcutta. p 34.

9 Subramaniya Iyer, K.A., 1969. *Bhartrihari: A study of the Vakyapadiya in the light of the ancient commentaries*, Poona: Deccan College, 1p 326 f.

10 Edward Sapir. 1921. *Language*, New York.

Jespersen¹¹ in his *Philosophy of grammar* (1924), Vendryes¹² in his *Language* (1925) and Bloomfield¹³ in *Language* (1933) have also touched upon the point and recognised the term as a distinct grammatical category. L.H. Gray¹⁴ in his *Foundations of Language* (1939) has for the first time discussed the problem exhaustively.

In modern times, Chomsky's¹⁵ idea of 'deep' and 'surface' structure can also be applied in the case of aspect. It is true that he has not categorically mentioned the aspect of a verb, but this deep structure may elicit the idea of aspectual meaning of verb. It is because a verbal form in a surface structure may give the idea of the tense only, but in its deep structure, the meaning of an aspect is laid up. For example, in English, *he is going to school*, in the surface structure is present continuous tense but in deep structure, it means that his action of going is not complete till he reaches the school, and, therefore, it is aspectually 'imperfect' or 'incomplete'.

It was only very recently that some scholars have given full attention to the subject. Forsyth¹⁶ has studied the Russian verbal system completely based on aspectual categories in his book *A grammar of aspect* (1970). Leech¹⁷ in his *Meaning and the English verbs* (1971) and Comrie¹⁸ in his *Aspect* (1976) have contributed much, concerning the modern conception of aspect. However, as the term 'aspect' is a vital point in verbal system, ideas have been expressed by ancient grammarians both Indian and Greek and also by modern scholars of the twentieth century.

The same attempt is made by Quirk, Greenbaum, Leech and Svartvik¹⁹ in *A Grammar of contemporary English* (1972) where they have classified English verbs in terms of semantic categories.

As regards the general definition of aspect, Comrie (1976) has visualised it in a different way. He has quoted the definition given by Holt (1943) that "aspects are different ways of viewing the internal temporal constituency of a situation"²⁰. He makes distinction between 'perfectivity' and

11 Otto Jespersen. *Philosophy of Grammar*, London: George Allen and Unwin, (1st edn. 1924), reprinted in 1925, 1929, 1935, 1951, 1955.

12 Joseph Vendryes. 1925. *Language - a Linguistic Introduction to History*, translated by Paul Radir etc. London.

13 Leonard Bloomfield. 1933. *Language*, London.

14 Louis, H. Gray. 1939. *Foundations of Language*, New York.

15 Noam Chomsky. 1957. *Synthetic Structures*, Hauge Mounon, S. Gravenhage. 1957. *Aspect of the theory of syntax*, Cambridge, Mass.

16 Forsyth, J. 1970. *A Grammar of Aspect, usage and meaning in the Russian verb*, Cambridge University Press.

17 Geoffrey N. Leech. 1971. *Meaning and the English verb*. London: Longman.

18 Barnard Comrie. 1976. *Aspect*. Cambridge University Press.

19 Quirk, Greenbaum, Leech and Svartvik. 1972. *A Grammar of contemporary English*. London: Longman, Pp 40-122.

20 Holt, J. 1943. *Etudes d' aspect*. Copenhagen: Acta Jutlandica, XV No. 2, Pp 1-46 for aspect in ancient greek.

‘imperfectivity’ in a way stating that ‘perfectivity’ indicates the view of a situation of a single whole without distinction of the various separate phases that make up the situation, while the ‘imperfectivity’ pays essential attention to the internal structure of the situation.

Concerning the modern Indo-Aryan languages, Beames²¹ (1879) and Hoernle²² (1880) both in their respective grammars visualize the tense system in different Aryan languages depending on the nature of verb forms. Though both of them did not mention the term ‘aspect’ very clearly, they were aware of the fact that along with tenses the sense of progressiveness, completedness are also expressed. They explained in detail the compound tenses which are formed by adding auxiliaries to the participial or gerundial bases, denoting the meanings of suddenness, potentiality, completedness, intensiveness, inceptivity and so on.

Beames has classified modern Indo-Aryan verbal tenses including Bengali into three classes viz. (i) simple tense -exact modern equivalent of corresponding tenses in Sanskrit and Prakrit verbs - the form of which, though very much abraded due to phonetic decay, is still traceable, such as, aorist -*dekhi* ‘I see’ and imperative *dekhuk*, ‘let him see’; (ii) participial tenses which are formed out of participles, such as, past habitual/conditional - *dekhītām* ‘I used to see’, past indefinite - *dekhilām* ‘I saw’ and future *dekhiba* ‘I shall see’ and (iii) compound tense in which base is either present participle or perfect participle with an auxiliary verb attached to it, Eg. present perfect - *dephiyāchi*, ‘I have seen’, past perfect - *dekhiyāchilām* ‘I had seen’, present continuous - *dekhitechī* ‘I am seeing’, *dekhitechilām* ‘I was seeing’.

Following Beames and Hoernle, Kellogg²³ (1892) in his *A Grammar of the Hindi language* has described the tenses in relation to the aspectual potentiality to a great extent.

A century earlier to Beames and Hoernle, Nathaniel Brassey Halhed²⁴ (1778) was the pioneer in providing a grammar of Bengali language. Following the traditional model of Greek and Sanskrit grammar, he, in his book *A Grammar of the Bengal language*, has given a verb paradigm of Bengali, such as,

1. *kari* (I do) present tense indefinite
2. *karitechī* (I am doing) definite present
3. *karilām* (I did) simple preterite

21 John Beames. 1879. *Comparative Grammar of the Modern Aryan Languages of India*. Vol. III. "The verb", London, Pp 99-216.

22 Hoernle, A.F.R. 1880. *A Comparative Grammar of Gaudian Languages*. London.

23 Kellogg, S.H. *A Grammar of the Hindi Language*, London (1st edn. 1875) 2nd edn. 1892,... 1st. Indian edn. 1972, Chapter IX, Pp 221-279.

24 N.B. Halhed. 1778. *A Grammar of the Bengal Language*. "Ilooghly in Bengal". Pp. 100-130.

4. *karitechilām* (I was doing) imperfect preterite
5. *kariyāchi* (I have done) perfect preterite
6. *kariyāchilām* (I have done) preter-pluperfect
7. *kariba* (I shall do) future
8. *karitām* (I used to do) conditional or aorist
9. *kara* (you do) imperative

The monumental and scholastic work on Bengali language was done by S.K. Chatterji²⁵. In his book *Origin and Development of the Bengali Language* Part II, he has visualized Bengali tenses from historical point of view and classified them into three types viz. (1) radical, (ii) participial and (iii) periphrastic. According to him, the concept of aspect is lying in compound verbs only.

Kazi Deen Muhammad²⁶ (1984) in his article *Bānilā Kriyāpad* puts emphasis on syntactic and structural peculiarities of Bengali verbs without referring to the characterisation of aspectual peculiarities of verbs.

Pabitra Sarkar²⁷ in his article *Bānilā Kriyāpad Dhātu śarīr* (1984) has pointed out that Bengali verbs are formed out of root plus endings. He signifies the term 'aspect' in the stem structure of Bengali verb formation.

Bengali Verb Structure on the Basis of Aspect

Verb morphology or conjugation plays a dominant role in determining the tense-aspect relation of verb category. In the conjugation system of Sanskrit, Greek and other branches of Indo-European languages, it is found that the temporal and aspectual functions of verbs are determined by means of stem formatives or determinatives which are simply affixes or infixes that occur between the roots and the personal terminations.

Bengali verbs, in accordance with their formation, may be divided into five parts, viz. (i) root + (ii) stem formative affixes + (iii) auxiliary + (iv) tense marker + (v) endings indicating persons and numbers. This may be illustrated in the following examples. Here, only first person forms in *Sādhu* Bengali are given.

bal- to speak

1. *bali* - (I speak) *present indefinite*

bal (root) + Ø (stem formative) + Ø (auxiliary) + Ø (tense marker)
+ *i* (first person)

25 Chatterji, S.K. 1975. *Origin and Development of the Bengali Language*, (1st edn. 1926) reprinted by Rupa & Co., Calcutta, Vol.II, p. 861.

26 Kazi Deen Muhammad. 1984. *Bangla Kriyapad* in *Banglabhasa* edited by Humayun Azad, Dhaka, Pp 367-397.

27 Pabitra Sarkar. 1964. *Bamla Kriyapad Dhatu Sarir* in *Post Graduate Bengali Departmental Journal*, Ranchi University, Vol.1, Pp 112-124.

2. *balilām* (I spoke) *past indefinite*

bal (root) + Ø (stem formative) + Ø (auxiliary) + *i* (past tense marker) + *ām* (first person)

3. *balitām* (I used to speak) *past habitual*

bal (root) + Ø (stem formative) Ø (auxiliary) + *it* (past habitual marker) + *ām* (first person)

4. *baliba* (I shall speak) *future indefinite*

bal (root) + Ø (stem formative) + Ø (auxiliary) + *ib* (future tense marker) + *a* (first person)

5. *balitechi* (I am speaking) *present continuous*

bal (root) + *ite* (stem formative) + Ø (auxiliary) + *ch* (present tense marker) + *i* (first person)

6. *balitechilām* (I was speaking) *past continuous*

bal (root) + *ite* (stem formative) + Ø (auxiliary) + *chil* (past tense marker) -*am* (first person)

7. *balite thākiba* (I shall be speaking) *future continuous*

bal (root) + *ite* (stem formative) + *thāk* (auxiliary) + *ib* (future tense marker) + *a* (first person)

8. *baliyāchi* (I have spoken) *present perfect*

bal (root) + *iyā* (stem formative) + Ø (auxiliary) + *ch* (present tense marker) + *i* (first person)

9. *baliyāchilām* (I had spoken) *past perfect*

bal (root) + *iyā* (stem formative) + Ø (auxiliary) + *chil* (past tense marker) + *ām* (first person)

10. *baliyā thākiba* (I would have spoken) *future perfect*

bal (root) + *iyā* (stem formative) + *thāk* (auxiliary) + *ib* (future tense marker) + *a* (first person).

It is evident from the above discussion that Bengali verb stems may be classified into three groups owing to their aspectual marker which is added between the root and the tense marker. It is to be noted that the aspectual meaning apart from the root and tense is conveyed by the stem formative affixes when added to the root. Thus we get the kind of action which is the real intended meaning of the verbal forms. Looking at the verb structure of Bengali, we can rearrange the Bengali verbal system into three stem systems denoted tacitly by three aspect markers. These are viz. aorist/indefinite stem structure, imperfect stem structure and perfect stem structure.

(a) Aorist/Indefinite Stem Structure

It is to be noted that the aorist/indefinite stem is formed by affixing tense marker and personal termination directly to the root. The verb stem is formed by nil stem formative affix to the root. Eg. *bali* 'I speak' the present indefinite, *balilām* 'I spoke' the past indefinite and *balitām* 'I used to speak'

the past habitual and *baliba* 'I shall speak' the future indefinite. Here the endings are directly attached to the root and thus these do not represent whether the action is completed or is in progress. The action seems to be a complete one and thus indefinite. We find that in Bengali the indefiniteness in present, past and future is unmarked where the markers for three tenses (present, past and future) are added directly to the root.

It is important to note that the term 'aorist' is not recognised in Bengali grammar. The concept of aorist tense was preserved in Sanskrit. There were three past tenses-imperfect, aorist and perfect and in the Middle Indo-Aryan, the imperfect and aorist merged together and formed practically one past tense and perfect became very much restricted. So the term 'aorist' is coined from the old school of Sanskrit grammarians in the sense of indefiniteness, and it is evident that this term has been used by N.B. Halhed and J. Beames in their respective grammars.

(b) Imperfect Stem Structure

Imperfect stem is formed by adding the infinitive suffix-*ite* (colloquial -*te*) which seems to be derived from Sanskrit present participial suffix-*anta* (the *śatr* of Sanskrit grammar). The basic meaning of the imperfect stem is the incompleteness of an action i.e., the action continues for a certain period of time. Eg. *balitechī* 'I am speaking' indicates that the action is continuing in the present; so the aspectual meaning of the action is in the process of continuing which is expressed by the affix -*ite* and -*ch* indicates present tense and -*i* for the first person. So the meaning of the entire verbal form will be something which is happening in the present and whose action is continuing or progressing. Similarly we have *balitechilām* 'I was speaking' for the past continuous and *balite thābika* 'I shall be speaking' for the future continuous tense forms. These three forms are exactly the same as regards aspect, but they are different so far as their tense is concerned.

The imperfect stem system as generally found in most of the Indo European languages indicates an action which is going on and therefore it is not complete. The Greek grammarians use the term *a-teles* for incomplete action and in Sanskrit grammar it is termed as *vartamāna* which can be explained as *arbdho parisāmaptasca vartamāna*, which means the action which is begun but yet to come to an end. The Latin grammarians call it 'imperfection', which is regarded as incomplete action.

(c) Perfect Stem Structure

The perfect stem is formed by the affix-*iyā-* which indicates action happened in the past and the following tense marker-*ch-* expressing the meaning something happened in the past but its result is still in the present and therefore it is for the first personal termination. Eg. *baliyāchi*, 'I have

spoken' where the aspectual meaning of *-iyā-* indicates the action happened in the past and *-ch-*, the meaning of the present tense is attached to it. Similarly the past perfect *baliyāchilām* 'I have spoken' indicating past action resulting to the past and the future perfect *baliyā thākiba* 'I shall have spoken' referring to past action resulting to the future, which indicates possibility of action'.

It is, however, important to note that the term 'perfect' and 'perfective' are used in different senses. The term 'perfective' denotes a situation viewed in its entirety without regard to its internal temporal constituency and the term 'perfect' refers to the past action with a view to the relevance in the present. In recent writings, there has been an unfortunate tendency to use the term 'perfective' in the sense of 'perfect' which may lead to the conceptual confusion.

Now it is clear from the above discussion that the concept of tense and aspect is underlying in the structure of Bengali verb formation. The concept of aspect is expressed with the help of stem formative affixes and the concept of tense can be elicited from different tense markers such as *-ch-*, *-chil*, *-il*, *-i* etc. To clarify further, tables are shown in the next page.

Various Aspectual Meanings of Stem Structure

The basic verbal stems, which are different from each other do not signify the same aspectual meaning and that is why the speakers or writers sometimes use the same root in different stem forms for signifying different aspectual meanings. The basic inherent meanings of these three stem structures are different when we consider them aspectually.

(A) Aorist/Indefinite Stem Structure

The term 'aorist' (Greek *aoristos*) is very old. In different languages, 'aorist' is used by different terms. In Sanskrit grammar it is known as *luṅ*; so also in French grammar though the term 'aorist' is not used, the idea is expressed by *le passé défini* or *le passé historique*. It describes an action as 'an indivisible whole'. According to Brugmann²⁸, it is 'momentary' tense and Delbrück²⁹ calls it 'punctual' or 'point-action' as it signifies 'a state or action which existed or was performed at a single time once and for all in the past'. So the aorist aspect is considered to be concentrative occurring without perceptible duration and is treated as a total performance of an action from beginning to an end. Concentrative is concentrated at certain point without noticing the beginning or end result of it. The aorist stem in Bengali is

28 Karl Brugmann, *Griechische*. 1899. *Grammatik* Strassburg.

29 Delbrück, B. D. *Syntaktische Forschungen* I, Halle 1871, II 1877, III 1878, IV 1879.

Table No. 1

Aspectual Categorization of Bengali verbs [first person forms]

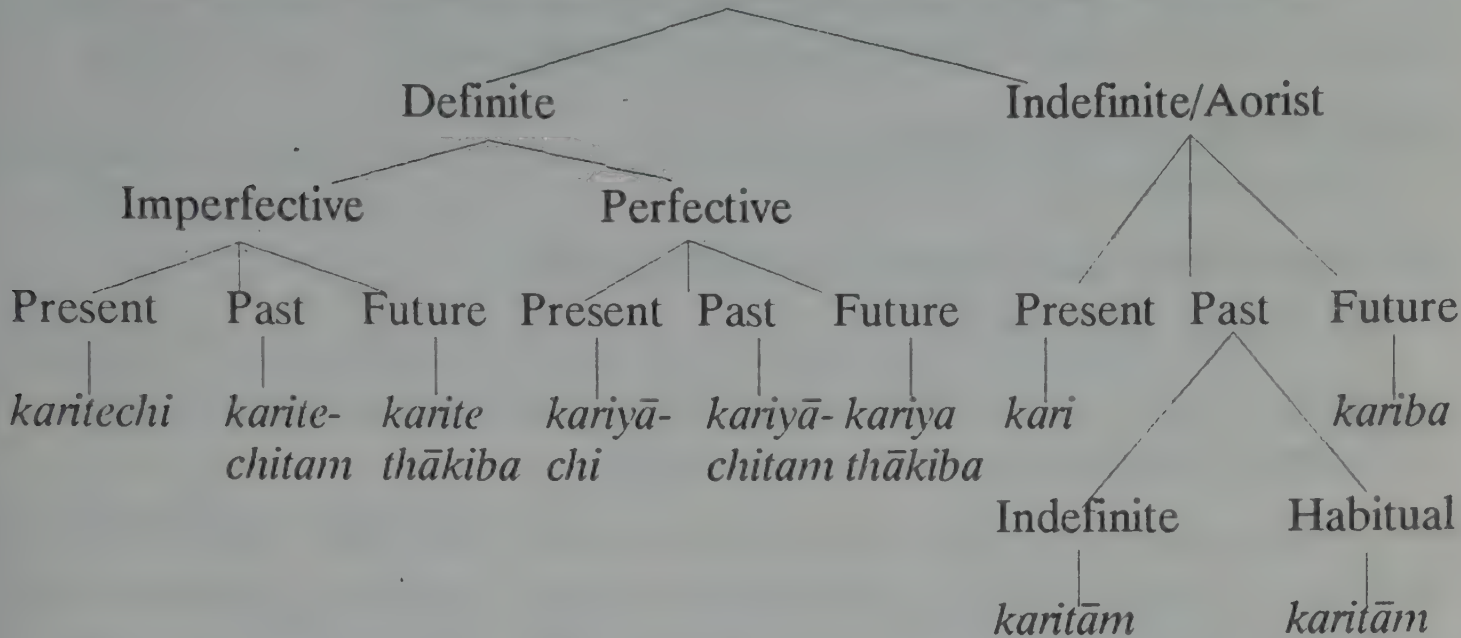


Table No. 2

Analysis of Bengali verb morphology on the basis of aspect
(First person sādhu forms only)

Aspect marker/ vikarāṇa	Tense marker			Personal endings	verb forms
	a. Present	b. Past	c. Future		
-ite- Imperfective	-ch-	-chil-	-ite + thāk (Auxiliary) + -ib-	a. -i b. -ām c. -a	a. karitechī b. karitechitam c. karite thākiba
-iyā Perfective	-ch-	-chil-	-iyā + thāk (Auxiliary) + -ib-	a. -i b. -ām c. -a	a. kariyāchi b. kariyāchitām c. kariyā- thākiba
-Ø- Indefinite/ Aorist	-Ø-	-il/ -it	-ib-	a. -i b. -ām c. -a	a. kari b. karilām/ karitām c. kariba

formed out of root with no stem affix along with personal termination referring to indefinite action as opposed to definite. It is the tense out of which the name is employed to mean both stem as well as aspect. It can be considered to have various semantic functions viz. (i) *gnomic* which gives the meaning of universal truth: it will be always in the present stem form; (ii) *instantaneous* which occurs in a certain moment representing the total event at once; (iii) *narrative* which gives the idea of actions happened one after another and (iv) *habitual* which indicates that the action happened in a regular course.

Gnomic Aspect

The aorist present is used referring to the expression of 'eternal truth' which is timeless. This is known as gnomic aorist.

- (a) *pr̥hibē sūryer cārdike ghore*
'The earth moves round the sun'
- (b) *mithiyābādīke sakalei ghr̥ṇā kare* (bbhb p.390)
'Everybody hates the liar'
- (c) *bidvān byakti sarbatra pūjita hay* (bbhb p.390)
'Learned men get patronised everywhere'

The aorist is used to express action which is the past but the form is used in the present. This is called *historic present*. It refers to the past events as if it was being witnessed at the present moment. The speaker, as it were, forgets all about time and recalls what he is recounting as vividly as if, it were now present before his eyes. Very often, this present alternates with the preterite. For example:

- (a) *1820 khriṣṭābde īśvar candra vidyāsāgar janmagrahaṇ karen.* (abb. p.390).
'Iswar Chandra Vidyasagar was born in 1820 of the Christian era'. Here the event already happened in the past, but the incident is narrated by the speaker at present.
- (b) *Humāyuner mṛtyur par ākbar dillir sinī hāsane ārohan karen* (abb. p.390).
'Akbar ascended the throne of Delhi after the death of Humayun'. Here also the historical event is expressed in the present moment.
- (c) *prāṇāpekṣā priya putra rāmcandrēr adarśane rājā daśarath prāṇtyāg karen.* (sbpbb p.287)
'Unable to bear the absence of his most beloved son Ramchandra, king Dasarath (soon) breathed his last'.

In Bengali aorist past with *-ila* and *-ita* endings in *sādhu* style is very common in use to indicate concentrative aspect.

Eg. with *-ila-* ending

- (i) *se ekhuni gela*
'He left just now'
- (ii) *tini eimātra snān karlen*
'He took bath just now'
- (iii) *āmi eimātra khāilām* (bbhb p.396)
'I ate just now'
- (iv) *se ekṣuni caliyā gela* (bbhb p.396)
'He left just now'

with *-ita* ending

(i) *biśu bara bijñā, kichutei bhulita nā* (Candranāth p. 207)

‘Bisu was very intelligent, he would not forget’

(ii) *takhan se lashiyār mār krore eban bichānāy śuiyā thākita*

(Candranāth p. 206)

‘Then he used to sleep in the lap of Lakhiya’s mother and in the bed’

(iii) *galpa kema kariyā balite hay tāhā tini jāniten* (Śrīkānta p. 300)

‘He knew how to tell a story’

Instantaneous Aspect

In Bengali, the aorist past is used in the sense of sudden action i.e., the action is done instantaneously. It is also known as momentary action, as because the action is done in a moment without considering any perceptible duration. For example:

(i) *tāhāke dekhībāmātra kṣudhārta dibākar garjan kariyā uṭhila*

(caritrahīn p. 746)

‘As soon as he saw her, hungry Dibakar roared’.

(ii) *miniṭ dui sthir thākiyā se sahasā jena jāgiyā uṭhila*, (caritrahīn p. 748)

‘She remained quiet for two or three minutes, then suddenly she woke up.’

(iii) *tatkṣṇāt... tāhār samasta mukh ujṇval haiyā uṭhila* (Dattā p. 803)

‘Immediately his whole face became brightened’.

Narrative Aspect

Aorist is used when narrating past incidents one after another. It occurs with verbs of activity. Normally the event does not take place at the time of speaking. It happened one after another in the past and this is what is narrative. Sometimes speakers or writers use the present tense while narrating past incidents. For example:

āmār bāsāy bāmunbyātā hayeche jeman pāji, temni badmāis juteche cākārta sāt sakāle rē dhe rekhe kothāy je jāy tār thikānā āmār konodin phirte bay duṭo, kono din bā cārte beje jāy.sei thāṇḍā karḱare bhāt-dudh kono din bā berāle kheyē jāy(Dattā p.840)

‘The cook in my house is a scoundrel; similarly the servant I have got is also a rogue. They cook my food early in the morning and goes away. God knows where; some days it is two o’ clock when I come back, often it is even four (in the afternoon) I got only the cold and half dried rice, some time the milk is taken care by the cat.....’

Aorist past tense is generally used to indicate narrative aspect. The speaker intends to tell about the events one after another or in a novel, the author narrates the past events in a sequence. For example:

- (a) *pārvatī devdāser ghare āsiyā prabeś karila, devdās śajyāy basiyā bisāb dek-hitechila, cāhiyā dekhila pārvatī dhūre dhūre kapāṭ bandha kariyā mejher upar basila, devdās mukh tuliyā cāhila, tāhār mukh biṣaṇṇa kintu śānta* (Devdās p 550)

‘Parvati entered the room of Devdas. Devdas was sitting on his bed going through the accounts; he looked at her. Parvati slowly closed the door and sat down on the floor. Devdas looked up and smiled. His face was sad but composed.’

Habitual Aspect

It is to be noted that many of the verbs in Bengali are used to refer to the habitual activity in the period of past time in consequence with the present moment. So it describes the habitual aspect expressed by using the substantive verb *thāk* ‘to remain’ in respect of tense attached to the perfect stem form. For example:

- i) *se pratyaha emni kariyā; pāhārā diyā thāke* (Birājbau p.47)
‘He, perhaps keeps on guarding everybody’
- (ii) *mahuyār phul pālāmau āñcale upādeya khādya baliyā byabahr̥ta baiyā thāke* (Sl bhp bb p. 149)
‘The flower of "mahuya" is consumed as a delicious food in Palamau region’.

The aorist past refers to an action in association with habit particularly of ‘repeated action’. The mode of expression of such repeated action or habit in the past is often emphasized by an adverbial of frequency. This habitual/conditional past tense is formed by adding the suffix (-it) to the root. It is to be noted that there are several other verbs with (-it) formation, which do not involve the inherent meaning of repetitive action. For example:

- (i) *tāhār asukher samay sārā rāt jāgiyā thākiten* (sbpbb p. 290)
‘She used to stay up the whole night when he fell sick’
- (ii) *āge khub khāitām ekhan ār pāri nā*, (sbpbb p. 288)
‘Previously I used to eat a lot but now I cannot eat’
- (iii) *kathātā o se sacarācar ekṭu kam kahita ehammad o ekṭu kam khāita* (Śrīkānta p. 301)
‘He used to talk less usually and used to drink wine less’

Conditional Aspect with (-it)

The stem formative affix *-it-* of aorist can be used to refer to the conditional aspect.

- (i) *meye mānuṣ janmāle tā bujhte svāmī ki bastu* (Birājbau, p.20)
'If you were born a woman, you would have known what husband is (to a woman's life)'
- (ii) *kintu bouyer kathābārtā ekṭu dūr haite śunile jhagrā baliyā mane haita.* (Arakṣaṇīyā p. 252)
'But from a distance the daughter-in-law's normal conversation seemed to be (as if) she was quarelling'
- (iii) *āj āśu berāite āsile bhāla haita* (abb p.399)
'It would have been nice if Asu came out for a walk today'

Future

The aorist stem is used to express the action which is yet to come i.e. the action about to take place in the near future or the action will take place in the remote future. Both meanings are expressed by adding *-b-* colloquial *-ib-* / (literary) to the root. For example:

- (a) *āmi ekhuni jāiba* (slbpbb p.288)
'I shall go now'
- (b) *āmi tāhāke abaśya ekathā jānāiba* (bbhb p.401)
'I must tell him this matter'

Aorist future often suggests the 'probability of action', obligation' or 'compulsion of action and it also refers to 'willingness of the speaker'.

Probability of action

- (i) *tomrā hayta śuniyā thākibe* (bbhb p 401)....
'You might have listened'
- (ii) *śeṣ paryanta hayte kājṭā haiyāi jāibe* (Pariṇīta p. 87)
'At last perhaps the work would have been done'
- (iii) *...ei āśā niye āmi bē ce thākba* (Śrīkānta p. 361)
'...' I shall be living with this hope'

Obligation or compulsion

- (i) *oke ucitmata śikṣā dite habe* (sppbb p. 75)
'He should be given a proper lesson'
- (ii) *tomāke ekṭā diner janya o antata deśe jete habe* (Śrīkānta p. 589)
'You must go to the native place at least for a day'

Willingness

- (i) *āmi jatadin bācha tomāder ekkebāre golām haye thākba*
(*Śrīkānta* p. 286)
'So long I live, I shall remain the most obedient servant to you'
- (ii) *āj tumi esecha, ekhan kāli jābār udyog karba* (*Devdās* p. 555)
'You have come here today. I will arrange for my going tomorrow'
- (iii) *kalkātā theke beśī dūre jāba nā, kāchā-kāchi kono grāme giyā thākba*
(*Devdās* p. 555)
'I'll not go far away from Calcutta; will live in a village nearby'

(B) Imperfect Stem Structure

Imperfect aspect as opposed to perfect generally expresses the incomplete action. It is mentioned by the traditional English grammarians as 'progressive'. It is also durative which is either repeated or continued for a limited period of time. The idea of incompleteness of an action can be expressed in various ways, such as, conative, inceptive, durative, repetitive, cursive and so on. The conative aspect describes an action in course of its performance in an attempt to achieve'. Continuative, progressive and durative are not exactly the same. They vary with each other to some extent. Continuative represents an action 'continues for a period of time'. Progressive refers to an action which is 'in progress regardless of its beginning or completion'. Durative refers to an action which is presented as lasting for some time in an unbroken course without knowing its consequence. Repetitive/iterative refers to the action in repetition. Cursive describes an action in its process of development. Some of these basic aspectual meanings of the imperfect stem structure can be traced from literature. Below are given some examples illustrating aspectual meanings.

(a) Progressive/Continuative

The verb stem with *-ite-* is generally used in the sense of progressive or continuative. As the action is in progress, it is imperfective and the result of the action has not yet achieved till then. It is incomplete aspectually. Below are given some examples of progressive aspect.

- (i) *tini kārāgāre basiyā ki bhābitechēn* (*Durgeśnandinī* p. 65)
'What is he thinking about sitting in the prison?'
- (ii) *nā jāni mane mane āmāke kata kaṭu balitebechen?* (*Durgeśnandinī* p. 65)
'Don't know how he is abusing me silently'

The same progressive/ continuative aspect is also used to refer to an action continued for some time in the past.

- (i) *birāj māṭir upar upur haiyā basiyā basiyā kāditechila* (Birājbau p. 43)
 'Biraj was lying prostrate on the ground and was weeping'
- (ii) *birāj antarer madhye dagdha haiyā jāitechila* (Birājbau p. 90)
 'Biraj was burning furiously in her heart'

Progressive/continuative indicates an action that will continue from some time in future.

- (i) *ekhāni hāt-mukh dhuibār prastāb laiṃ sābitrī āsiyā paṛibe ebāni khābār janya jid karite thākibe* (Caritrahīn p. 614)
 'May be Sabitri will appear just now with proposal to wash my hand and mouth and will be insisting (me) to take my food'
- (ii) *kayekdin dhariyā br̥ṣṭi haite thākibe*. (B. Chowdhury, *bicitrā* p. 67)
 'The rains would be pouring since a few days'

It is important to note that in some cases the imperfect stem is used to indicate futurity instead of simple future expressed by - *iba*. Actually the sense would be very emphatic and definite... Eg. *āmi kāl dilli jācchi* 'I am going to Delhi tomorrow' whereas *āmi kāl dilli jāba*. 'I shall go to Delhi tomorrow' does not bear the same definite and emphatic sense.

(b) Conative

In Bengali conative aspect is often found in compound verbs. The idea of attempting to do the action is expressed by adding the auxiliaries, Eg. *marite jāoya* (attempt to kill), *dharite jāoyā* (attempt to hold), *ā kte basā* (going to start drawing), *paṛite basā* (start to studying), etc. The nominal compound verbs, such as, *ārambha karā* (to start with), *ceṣṭā karā* (to try), etc. are used to denote conative action.

- (i) *hirālāl bicār ārambha kaila* (Rajanī p. 449)
 'Hiralal started arguing'
- (ii) *sandhyār komal ākāṣe t'ārā uṭhile ubhaye tārā gaṇite basila* (Candraśekhara p. 347)
 'Stars appeared in the quiet evening sky; both of them sat down to count the stars'

(c) Inceptive

For inceptive, the compound verbs with auxiliary *lāgā*, 'to be attached with' are used referring to the starting point in continuation.

- (i) *girīn cup kariyā rahila, tini balite lāgilen* (Pariṇītā p. 76)
 'Girin kept quiet; he went on saying'
- (ii) *girīn tāhār boner mukher pāne cāhiyā hāsite lāgila* (Pariṇītā p. 70)
 'Girin looked at his sister's face and started laughing'

(d) *Durative*

For expressing durative aspect, the auxiliary *thākā* 'to remain' is used with the imperfect stem form, such as, *kā dīte thākā* 'keep on weeping', *hāsite thākā* 'keep on laughing', *parite thākā* 'keep on studying', etc. to denote duration of action.

- (i) *bijayār samsta deha-man aparimita ānanda bege tharthar kariyā kā pite thāke.* (Dattā p. 834)
 'Vijaya's body and mind keep on trembling full with joy'
- (ii) *snān khāoyā bhule giye se sārādin galper bai parte thāke*
 'He forgets to take bath and food, but goes on reading story books'

(e) *Repetitive*

For repetitive aspect, adverbials such as *nitya* 'every day', *bār bār* 'repeatedly' *sabsamay*, 'always', etc. are used. It is used referring to the action taking place regularly.

- (i) *se roj āmāke dekhte āsche*
 'He comes everyday to see me'
- (ii) *ramanbābu o tāhār pitā sabbadā tāhār bārīte jātāyāt karitechila*
 (Indirā p. 311)
 'Ramanbabu and his father used to visit his house frequently'
- (iii) *śambhu miśir tāhār sahīr cirakāl khelitechē* (Candranāth p. 216)
 'Sambhu Misir is playing the game for a long time'

(f) *Cursive*

For cursive aspect, the verb denotes process of development.

gāchṭā dinē dinē bārīteche
 'The plant is growing day by day'

Here the adverb *dine dine* refers to the process of development.

(C) **Perfect Stem Structure**

Perfect stem structure refers to an action or state already completed in the past with results extended up to the present. So far as aspectual meaning is concerned, it can be expressed as intensive, stative and resultative meanings. Intensive meanings of the perfect is deduced from context by using compound verb and often it is emphasized by the use of adverbials. Stative aspect of the perfect refers to the 'present state, mental or physical, resulting from the accomplishment of a prior action.' It thus expresses pastness of the perfect stem describing the effect of past action at the time of speaking. Resultative perfect denotes the past action but its effect or result is perceptible in the present.

The perfect stem expressing perfective aspect can be used in present perfect, past perfect and future perfect.

Intensive Perfect

Intensive meaning is expressed by using compound verb of perfect stem along with the auxiliary *deoyā* 'to give', Eg. *pāṭhāiyā deoyā* 'to send out' *bhāmiyā deoyā*, 'to break down'. The auxiliary *deoyā* intensifies the action in the context and sometimes adverbials like *niścay* 'certainly', *abaśya* 'of course', *satyi* 'truly' etc. are used in a sentence. For example:

- (i) *se tār māṭir putultā bhāmiyā diyāche*
'He has broken down his earthen doll'
- (ii) *se sab gopan kathā bale diyeche*
'He has disclosed his secret matter'

Stative Perfect

It is used in stative sense as it represents the effect of a completed action with the result in a lasted state or condition, Eg. *se mārā giyeche* 'he has died' and therefore 'he is dead'; *tār khīde peyeche* 'he has got hunger' (literally) and therefore *se kṣudhārta* 'he is hungry'.

- (i) *ei phālguner śeṣe biṣūcikā roge tāhār strī mariyāche..* (*Denāpāonā* p. 1089)
'At the end of last *Phalgun* (month) his wife died of cholera....'

Present Perfect

Perfect expresses an action already begun and proceeds up to the present moment and completed. It is known as present perfect.

- (i) *takhan tāhār caudda batsar, āj prāy triś haite caliyāche* (*Birājbau* p. 57)
'He was only fourteen then; now he is going to be almost thirty (years old)'
- (ii) *etadin svāmūr carane se śudhu minati jānāiyā āsiyāche* (*Birājbau* p. 66)
'So far she has only prayed herself at the feet of her husband'
- (iii) *āmi kālī tāhāke dekhiyāchi* (*sbpbb* p. 289)
'I have seen him yesterday'

Past Perfect

Past perfect refers to the past action stretching its result into the past. So it is the past-in-the past. For example:

- (i) *māyer ākasmik mṛtyu br̥ndābanke eman ācchanna kariyā pheliyāchila* (*Paṇḍitmaśāi* p. 128)
'Brindavan had become so overwhelmed after the sudden death of his mother'

- (ii) *..baralokder ghare śudhu khāiyā āsibār aparādhe kusum eta rāg kariyāchila* (*Paṇḍitmaśāi* p. 96)

‘Kusum became so angry because it was improper to enjoy a feast in the rich people’s house’

- (iii) *andhakāre kuñja dekhite pāila nā, kusumer cokher jal kamiyā āsiyāchila* (*Paṇḍitmaśāi* p. 114)

‘Kunja could not see in the dark that Kusum’s eyes were drying’

Resultative Perfect

Resultative perfect aspect is such which refers to the past action continuing up to the present moment with a view to conveying the result of the past action. Here the action happened in the past, but its consequence or result is still perceived at the present moment. Thus it is known as ‘resultative’. According to Leech, ‘this meaning is clearest with transitional event verb denoting the switch from one state to another’. For example:

- (i) *śekhar mane mane bujhila tāhār je paṭh bandha kariyā prācīr tuliya diyāche....* (*Parinītā* p. 87)

‘Sekhar thought himself that the meaning of this closure of the road by raising a wall by them’

- (ii) *śāhjāhāner samay tājmahal tairē hayeche*

‘Tajmahal was built during Sahajahan’s rule’

Future Perfect

Future perfect form expresses an action which will be completed sometime in the future. The emphasis is given on the totality of performance. In Bengali, future perfect tense is used in the sense of potentiality or probability of occurrence of action in future. For example:

- (i) *tomrā hayta śuniyā thākibe je megh O kuyāśā eki jinis* (*bbhb* p. 401)

‘You would have heard that the cloud and fog are basically the same thing’

- (ii) *āśu ei patra likhiyā thākibe* (*bbhb* p. 401)

‘Asu would have written this letter’

- (iii) *āmār mane nāi tabe baliyā thākiba*, (*sbpbb* p. 289)

‘I do not remember, but might have told about it’.

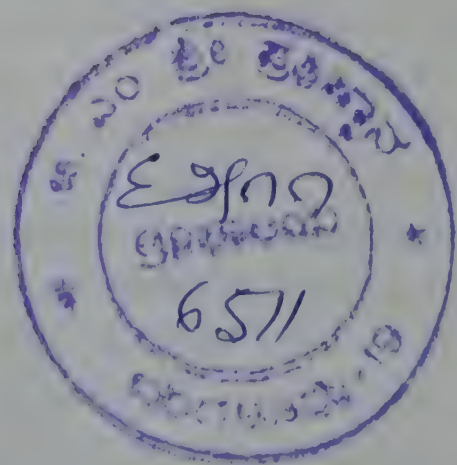
Conclusion

The illustrations and analysis of the Bengali verbs so far discussed have been made in terms of verb stem structures. In fact, the aspectual meaning is more important than the tenses, because aspect gives us the intended meaning of a verb and for which the understanding between two speakers is explicable. Speech act is normally employed in conveying the

speaker's judgement and feeling to others. With regard to speech communication, a speaker may look at the action in various ways, whether the action is regarded as indivisible whole i.e. concentrative or it represents the beginning of an action or continuity of action or completion of action, frequentative, suddenness of action, etc.

Abbreviation and texts referred to in this paper

- a.b.b* *ādhunik bāngla byākaran*, Jagdish Chandra Ghosh, Calcutta (1st edn.) 1938..... consulted edition, 1939.
- b.bh.b* *Bāngla bhāsār byākaran*, Upendranath Biswas, Calcutta, 1940.
- Bankim Chandra Chattopadhyay* *Durgeśnandini*, *Indirā*, *Candraśekhara*, *Rajanī-Bankim Racanavali*, pratham khanda, samagra upanyas, Sahitya Samsad, Calcutta, 11th edition, 1391 B.S.
- Bicitrā* B. Choudhury, Calcutta, 1976.
- Sarat Chandra Chattopadhyay* *Birājbau*, *Parinītā*, *Panditmaśāy*, *Candra-nāth*, *Araksanīyā*, *Srīkānta*, *Devdās*, *Caritrahīn Dattā*, *Denā Pāonā*-edited by Sukumar Sen, Ananda Publishers, Calcutta 1392 B.S.
- s.b.p.b.b* *Sankshipta bhāṣā prakāś Bāmlā Byākaran*, Suniti Kumar Chatterji, Revised edition, Bengal Publishers, 1946.
- sl.b.p.b.b.* *Saral bhāṣa prakāś Bānglā Byākaran*, Suniti Kumar Chatterji, New 6th edition 1972.



Notes & Discussions

ARCHAEOLOGY OF BANGLA GRAMMAR

DEBAPRASAD BANDYOPADHYAY

Indian Statistical Institute

Calcutta

Once Bankim Chandra Chattopadhyay (1880) demanded an 'autonomous history' for Bengal. At the same time, there was also a demand for an 'autonomous grammar' for the Bangla language (1893: in a conference of Bangiya Sahitya Parisad, an institution of language-management). This is not at all a co-incidence that some people of Bengal were engaged to build 'autonomous history' or 'autonomous grammar' simultaneously as there was a growing need for national identity among the intellectuals under the rule of the Raj. Therefore, there was a distinct link between writing autonomous history of grammar and budding nationalism in the nineteenth century Bengal¹. This relation between writing grammar and history with nationalism is called *atidesa*, (a concept of *Pāṇinian* grammar) by which the knowledge of Indian Nationalist thought (Guha: 1988:2). Both Guha (1988) and Bykova (1961) asserted this fact of self-determination in the case of history and grammar respectively. Bykova commented in course of discussing Rabindranath as a linguist that the cultivation of mother tongue by Rabindranath was stimulated by the then patriotic movement with the aim of self-determination.

Was there no autonomous history or grammar before this demand had been raised? All the foreign colony-seekers wrote Bangla grammar for their own need to interact and colonialize the natives of Bengal. In the title page of Halhed's Bangla grammar, he distinctly affirmed that he wrote this grammar for the sake of Englishmen (He wrote it in Sanskrit verse: 'phiringinamupakarathang....'). On the other-hand, native grammars were a type of translation from these texts. On the basis of English grammar, Bangla grammar was shaped. Therefore those grammars played a role of hegemonic texts. There was also an influence of Sanskrit grammar on the formulation of the Bangla grammar. Sanskrit was symbolised as the language of the glorious Indian past. Haraprasad Sastri, along with Rabindranath and Ramendra Sundar Tribedi wanted to shun off both these

1 Rabindranath refused to translate the term 'Nationalism' as this term is totally alien to the Indian condition and the word is borrowed rulers' vocabulary, which is again related to the socio-economic condition of Europe.

of grammars. According to Sastri (1901/1981:593-602), the Bangla grammars which follow the footsteps of Sanskrit grammar, are ridiculously called as ‘Mugdhobodh patent’; on the otherhand the Bangla grammars translated from English, are called ‘highly patent’ by him. Some grammars were mixed with all these aspects. A type of hotch-potch (as Haraprasad Sastri called it) was made in establishing Bangla grammar. Both Sastri and Sukumar Sen used two typical Bengali food items, viz. ‘khicuri’ and ‘ghantapak’ respectively to represent this state of affairs of mixture and amalgamation. This analogy of mixed food helps us to understand different non-linear levels of enunciations within a single text. In this case, one may recall Strauss, who compared food habits of any community with other social facts of the community.

The present paper makes an attempt to show these different types of discursive formations and epistemological breaks in a text book of Bangla grammar, written by Suniti Kumar Chattopadhyay (1939). The different enunciations, which influenced this grammar, are as follows:

- a) Classical general grammar/English grammar (translation)
- b) Sanskrit grammar (a type of epistemological recurrence)
- c) Comparative philology
- d) Linguistic analysis of Bangla language with a view to build up an autonomous Bangla grammar (Please mind the break/threshold between c and d). There may be an epistemological obstacle to understand this. (Please see Foucault: 1973:90-91)

Chattopadhyay himself admitted all these variations in the introduction of the aforementioned book. By analyzing every grammatical topic of this book, I will attempt to show, following Gaston Bachelard and Foucault, each epistemological breaks, obstacles, recurrences and translations found within the texts.

Bangala-Bangla-Bengali

How did the colonizers pronounce the simple word *Bangla*? Perhaps, Portuguese people were the first culprit to mis-spell the word. English did the same mistake by spelling ‘Bangla’ as ‘Bengali’. The question is that why did they hear Bangla as Bengali and accordingly spelt it? Why this type of ‘difference’ (non-unitary synthesis of heterogeneous features’- Derrida). One may deconstruct the spelling in this way to reveal the fact behind this type of spelling:

Incidentally, we see the inscription of the ruler’s name within the subject’s name. Is this similarity merely a co-incident? It is better to leave it

	ENG		LI	SH
B	ENG	A	LI	

for the consideration of the readers. Chattopadhyay did not encourage this type of translation by the Englishmen, in his book, as he mentions: 'Englishmen could not properly utter our names..... This is a type of torture to our languages.... So we must not imitate them, considering it as barbaric and incorrect.'

But here, I want only to highlight the fact that the rulers were engaged to interpret subject's language, history, law knowledge with a view to rule the native Indians. Their intention was, 'know the subject and rule them'. The colonial power in India introduced English as a hegemonic instrument to produce interpreters, not analysts, who could analyse the meaning of European culture, specially the meaning of 'pure reason', 'free reason' etc. As 'enlightened' Europe played like an equivocator, at the time of talking about the free rationality, enslaved Asia, Africa and Latin America to establish its Empire. This, according to Frankfurt Marxists, is called 'dialectics of enlightenment'

Niranjana (1990:774) summarized the hidden facts behind the Orientalism in course of discussing Willium Jones' contribution to the subject:

'The most significant nodes of Willium Jones' work are a) the need from translation by the European, since the natives are unreliable interpreters of their own laws and culture. b) The desire to be a law-giver to give the Indians their 'own' laws; and c) the desire to 'purify' Indian culture and speak on its behalf.'

Not only Jones, but others like Foster, Halhed, Cerry etc. did not rely upon the natives in this regard. All of them had tried to shape the Bangla language according to their will (Roy: 1991:45-48). This very will is inscribed in the name of 'Bengali'

Bangla Vyakaran: Pure Brand

Sastri has pointed out, *Vyakaran* is, in fact, pure etymological science. It is simply understandable whether it should be characterised as grammar or not'. He also noticed that there are more than two hundred and fifty Vyakarans written in Bangla, where definition of Vyakaran is given according to the definition of English grammar. This feature reflects the nature of the then colonial pedagogy. Sastri himself followed Patanjali to define Bangla Vyakaran, 'Vyakriyante vyutpadynte sabda anena'. Two things are to be noted here:

a) Grammar is translated as Vyakaran in the case of 250 Vyakarans and b) Sastri had tried to revive the authentic meaning of the term from the distant past.

Sunitikumar defined the term according to the English grammar in his book in 1939 (1.51-52). The relative difference between these two is

somehow mentioned in the section 1.53. But in a handwritten note in the author's copy of the book, he incorporated Patanjali's and Bhartrihari's definitions to substantiate his previous attempt to define the term, perhaps influenced by Sastri's criticism.² He defined the Greek word grammar as 'sabdasāstra' and 'Vyākaran' as 'analytical science' of language. Thus, there are so many breaks within one concept. These may again be categorized as a) translation from the rulers' language, b) translation from Sanskrit (epistemological recurrence) and c) influence of modern linguistics.

Structure and Programme of the Book

In a brief introduction to the book, Chattopadhyay distinctly listed his intended categorization of different topics:

1. 'I analyze Sanskrit words in the Bangla vocabulary *as per convention*.³
2. 'I have tried to analyze the specific nature of the Bangla language and specify the rules regarding phoneme, lexeme etc. Without these rules there should not be any autonomous grammar of Bangla'.
3. 'I analyze this language historically'.
4. 'I compare this language with other languages'.

Thus Chattopadhyay incorporated rules of Sanskrit Vyākaran, and linguistic analysis in the synchronic perspective, diachronic as well as comparative study of the language. Had not this type of mixture become a heavy burden to the students of IX and X standards? This book failed to show the actual linguistic method for mother-tongue cultivation; instead, it had become a document of the then political situation.

Following the organization of descriptive linguistics, the contemporary genre, Chattopadhyay categorized his grammar book to phonology, morphology, syntax, semantics etc. according to the descriptive levels of the language. But, following the Nesfieldian framework, he incorporated figure of speech, poetic diction, prosody etc.⁴ So no single school was followed to compose this book. The book was written in a highly codified language, viz. *sadhubhasa*. This language was much criticized by Rabindranath and Pramatha Choudhuri as it was not a spoken variety and was artificially used in written form. There was also a great debate between two groups regarding






2 I had an opportunity to arrange all these hand-written notes from the author's copy of the book. This book along with these notes has been published by Rupa & Co., Calcutta.

3 Rabindranath, in his 'Bangla Bhasa Paricay', admitted that tatsama (Sanskrit) words hardly exist in Bangla pronunciation though we spell them as per Sanskrit rules and regulations. The tatsama words, if they put off the guise of spelling, has become Prakrita sabda (naturalised Bangla). Chattopadhyay also confirmed this fact. (1926:189-90).

4 Chattopadhyay wrote in his copy of the book something more on prosody and figure of speech following English grammar at the end of the book. Unfortunately, the publisher of the new edition of the book has omitted those valuable notes.



the use of *sadhubhasa* and *calit bhasa*, the then colloquial speech. Now, we consider some of the topics of the book to show the afore-mentioned breaks/thresholds which are amalgamated in this document.

Phonology

1. a) He did not differentiate *varna* (means 'colour', by the help of which one can write: grapheme) and *dhvani*. So he followed Sanskrit rules to describe these *varnas*, which are not at all existed in Bangla (recurrence).
- b) Simultaneously he analyzed (mixture) actual Bangla phonemes according to the rules of phonology.
- c) He also introduced some Bangla sounds by giving its English equivalents without providing any phonetic description. Eg. sh = ; , ; w = ; , is pronounced as English *a* in 'law, all, caught', etc.⁵
2. He incorporated *natva* and *satva vidhi*, which are in fact Sanskrit rules in the Bangla grammar as there is an institutional rule (Calcutta University was an institution of language planning in this case) to maintain Sanskrit spelling in the tatsama words. Those *vidhis* were perhaps introduced as a spell check (recurrence). Thus, it is difficult to understand the 'differences' among graphology, phonology and phonetics.
3. *Guna*, *vrddhi* and *samprasarana* were also included, though these rules are applied to the Sanskrit data (recurrence).
4. He, here also, included Sanskrit sandhi with some other Bangla morphophonemic changes (recurrence).

Morphology

1. In the morphological analysis, Chattopadhyay analyzed morphemes according to the synchronic Sanskrit rules as, according to him, there are large number of Sanskrit words in Bangla. By the same logic, he introduced *Krt pratyay*.
2. The epistemological mixture is mostly vivid in the discussion of *karaka*. The concept of Sanskrit *karaka* (theta-role), case (*vibhakti*) and functional categories were totally confused. This amalgamation of three types of concepts is much discussed by different scholars like Sastri and Sen. Sarkar described this chapter on *karaka*-case-FC is a nightmare to the students. Dasgupta has tried to wipe off this nightmare.
3. Parts of speech are categorized according to English pedagogical grammar, just by translating the definitions from English dice.

5 There is only one palatoalveolar s in Bangla () whereas dental and retroflex fricatives are non-existent.  = a is back open vowel.

4. Practically he followed the tense system of English and fitted the Bangla data in the English dice.
5. In case of composite verbs, a diachronic concept, is fitted with synchronic data. So it is difficult to understand the real compositeness of the verb.

Conclusion

I attempted to show some of the breaks, recurrences, mixtures etc. within a single textbook of Bangla grammar. By this analysis, I had tried to relate some other non-linguistic ideological facts like colonialism, nationalism and amalgamation of these two factors.⁶ This is a type of archaeological digging in the epistemological field. There are two types of nationalisms: one is Sanskritized; Bangla words are represented as Sanskrit words, hence representing the Sanskrit nationalism; another one was searching its national identity within the periphery of synchronic modern Bangla, hence the concept of autonomous grammar had emerged.

In this paper, I do not oppose any particular methodology; instead, I just highlight the representation: Bangla represented as Sanskrit or as English, not as 'Bangla as it is'.

Bibliography

- Althussar, L. 1977. 'Ideology and Ideological State Apparatuses' in *Lenin and his Philosophy*. London: New Left Books.
- Altridge, D. Bannington, G. Young, R. (Ed.). 1987. *Post-Structuralism and the question of History*. New York. Cambridge: Cambridge University Press.
- Atkinson, P. 1985. *Language, Structure and Reproduction: An Introduction to the Sociology of Basil Bernstein*.
- Bykova, I. M. 1961. *Rabindranath as a linguist*. (translated into Bangla by Pradip Baksi, Paricay, June 1987)
- Chattopadhyay, B. 1880. "Some notes on the history of Bengal" (in Bangla). Collective works of Bankimchandra (336-340). Calcutta: Sahitya sangsad.
- Chattopadhyay, S. 1926. *The origin and development of the Bengali language*. Vol. I-III. Calcutta : Rupa and Co.
- Chattopadhyay, S. 1939. *Bhasa prakas Bangla Vyakaran*. Calcutta : Rupa and Co.
- Coward, R. Ellis, J. 1977. *Language and Materialism: Development in Semiology and the theory of subject*. London : Routledge and Kegan Paul.

6 Due to the limited space of the paper, I do not dare to class ideology in the mind of the students, visible pedagogy, mechanical solidarity etc. I do not also mention the 'death of the author' - the hypothesis in connection with the interplay of different institutional ideologies in the text and role of the author. I also do not discuss the phenomenology of this book as a school grammar.

- Das, K. 1987. *Bangla Linguistics and Rabindranath* (in Bangla). Howrah.
- Das, N. 1987. *Bangla Grammar: its development and origin*. Calcutta: Rabidrabharati University.
- Dasgupta, P. 1989. *Projective Syntax: Theory and Application*. Pune: Deccan College.
- Dasgupta, P. 1987. "Loharam Siroratna's Bangla Grammar". *Jijnasa*, Vol. VIII. No. 3.
- Dews, P. 1987. *Logics of Disintegration*. London, New York : Verso.
- Foucault, M. 1973. *The order of things: An Archaeology of Human Sciences*. New York : Vintage Book.
- Foucault, M. 1988. *The Archaeology of Knowledge and Discourse on Language*. Pantheon Books.
- Gasche, Rodolphe. *The Tain of the Mirror*. Harvard University Press.
- Guha, R. 1988. *An Indian Historiography of India: A Nineteenth Century Agenda and its implications*. Calcutta : K.P. Bagchi and Co.
- Misra, S (Ed.). 1987. *Bangla Grammar: a polemic*. Calcutta : Orient Book Company.,
- Marcuse, H. 1964. *One Dimensional Man: Studies in the Ideology of Advanced Industrialised Society*. ARK paperback.
- Niranjana, T. 1990. "Translation, Colonialism and Rise of English". *EPW*, Vol. XXV. No. 15 (773-779).
- Niranjana, T. 1990. "History Really Beginning: Compulsion of Post-Colonial Pedagogy". *EPW*, Vol. XXV. No. 42-43. (2379 - 2384).
- Norris, C. 1987. *Derrida*. London : Fontana Books.
- Rabinow, P. (Ed.). 1984. *Foucault Reader*. New York: Pantheon Books.
- Roy, D. 1991. "ODBL: A new reading". *Praiti*, Vol. V. No. 1.
- Sarkar, P. 1992. *Articles on selected Bengali Linguists* (in Bangla). Calcutta: Punasca.
- Sastri, Haraprasad. 1901. *Bangla Vyakaran. Haraprasad Racanavali* (593-602). Calcutta: Pascimbanga Rajya Pustak Parisad.
- Silverman, D & Torode, B. 1980. *The Material World: Some Theories of Language and its Limits*. London: Routledge and Kegan Paul.
- Srivatsan R. 1990. "Trajectory of reason in Historiography of Sciences" (Review Article). *Economic and Political Weekly* (205-208).
- Thakur, R. 1961. *Bangla Bhasa Paricay* (in Bangla). Rabindra Racanavali Vol IX. Calcutta: Govt. of West Bengal.

Review

MLĒCCHA - THE EVOLUTION OF ITS SIGNIFICANCE
in *Samāmnāya*, Vol. 21, 1993.

The International School of Dravidian Linguistics has received a copy of *Samāmnāya*, the Journal of the Maharshi Veda-Vijnana Academy, Vol. 21, 1993, with the request that the *International Journal of Dravidian Linguistics* may be sent in exchange.

In a very well documented article, "*Mlēccha - Its evolution and Growth: A Critical Study*", Prof. Sudarshan Kumar Sharma, Principal, MR Government College, Fagilka (Punjab) has analysed the changing concept of *Mlēccha* from Vedic times. The *Sukranīti* uses the term as the appellation to be applied to a King, who propagates false reports from spies and causes thereby the loss of life and property of the people. He quotes this authority to show that the castes are not created differently, but differentiated by virtue of the avocations they took up. All were Brahmana to begin with, and were subdivided on the basis of occupations into the four *varna-s*, *Brahmana*, *Kshatriya*, *Vaisya* and *Sudra*, and the *Mlēccha*, who were born out of miscegenation among the other four. If the female partner in such unions was *Sudra*, then the progeny would be considered *nīca*, but if the male partner was *Sudra*, would be considered *Sudra*; in either case, the progeny was *mlēccha*. Sukra also noted the regional differences among the practices of Brahmanas; eg., "those of the south married the daughters of their maternal uncle; in Madhyadesa, labourers and artisans were beef eaters, the men fish eaters and the women libidinous, whereas in the north, women drank wine and cohabited even during menstrual courses...the Khasa married the widowed wife of the elder brother or of brothers in general..."

The sons of Brahmanas born in liaisons with women of the first three castes are to be brought up as Brahmanas, the sons of Kshatriyas born out of Brahmana, Kshatriya or Vaisya women as Kshatriyas and the sons of Vaisya fathers as Vaisya; and the son of a *Sudra* father born out of a Brahmana, Kshatriya or Vaisya mother was to be brought up as a *Sudra*. Thus even here, the "symmetry" was maintained, the caste of the father determining that of the child, irrespective of the caste of the mother. In fact, *bija* (male) and *kshetra* (female) were held equally important in determining the worth of the progeny, Viswamitra (father Kshatriya), Vasistha (mother celestial), Matanga (father belonging to nondescript caste) and Narada (mother a *dāsi*) are cited as examples.

While the term *dāsa* could have been applied to the non-Aryan tribes whom the Aryans actually subjugated, there were vast numbers who were outside their reach, but whom also they categorised as *dāsa*. The author quotes Saurindro Mohun Tagore to the effect that "Sudra", even though they might have originally comprised only the captured *dāsa* groups, could have been applied to all those who "totally (forsook) their duties... and became engaged in all kinds of occupations..." Geographical classifications were mythologically associated with emergence of groups from various parts of the anatomy of Vasistha's cow Nandini. Among the many types of *mlēccha-s* who originated from the saliva of the cow were the *Cīnas*, the *Hūnas* and the *Kēraḷas*. *Prachyas*, *Khasas*, *Andhrakas*, etc., and some types *pādaja sudra*, i.e., born out of the feet of the cosmic person, were considered *mlēccha*, if *sankara sambhavaḥ* = born of mixed parentage. *Candāla*, *Vrātya* and *Vaidya* were considered to have been the progeny of Sudra fathers on Brahmana, Kshatriya and Vaisya women. Many of them were kings in the lands outside the control of the Aryans. *Mlēccha-s* and *Dravidas* are described in the Mahabharata as having fought from the backs of inebriate elephants, and to have overshadowed Arjuna.

By the Epic period, the caste system had become rigid, so much so that the inhabitants of the original home of the Rig Veda, viz., the North western regions, were considered *Vrātya* or uncivilized because they did not follow the rigours of the system. This region, known also as *Vāhika* and *Āratta*, was to be avoided, as were also the regions inhabited by *Mahiskas*, *Kārandas*, *Kēraḷas*, *Kārkotas*, etc.

Incidentally, the term *asura* originally did not have a pejorative meaning, but signified those gods who abstained from wine. *Sura* gods on the other hand took wine and espoused *Vārūni*. They were however "set aside", and thus share the same categorisation as the *mlēccha*, whose etymology derives from *mlista*, *mluc* or *mruc*, meaning to set aside.

In Brihatsamhita, *mlēccha* was identified with Yavanas, who were skilled masters of Astrology, and as venerable as Brahmana astrologers. Varahamihira held the Yavanas as at par with *Vratyas* or *Sudras* as regards to birth, but with Brahmins in so far as intelligence was concerned.

It would be useful to compare these theories with those of Romila Thapar (*A History of India*, Vol. 1, 1984, Penguin Books), viz., that "orthodox Aryanism" considered foreigners as impure = *mlēccha* (p. 60). The law-makers declared it a great sin for Hindus to travel by sea because it meant contamination with the "*mlēccha* (impure)" (p. 150). The Shakas, Kushanas, and later the Huns were identified by her as *mlēccha-s* (p. 184). She conjectures that the Arabs were the *mlēccha-s* against whom the first Pratihara king is said to have been a fierce enemy (p. 222). With reference to the Greeks, the Scythians, the Parthians and the Huns, she concludes that

they were *mlēccha*-s, but "... as long as (they) could be assimilated into existing institutions, the fact of their being *mlēccha*-s could be overlooked" (p. 289).

Though not interchangeable with *mlēccha*, the term and the connotations of the word "Sudra" also had somewhat similar implications. Sharma, R.S., in his *Sudras in Ancient India*, (Motilal Banarsidass, Delhi etc., second revised edition 1980),⁴ had pointed out that *dāsa*, *dāsyu* and the Sudra were not originally interchangeable. *Dāsyu* were the only group racially distinct from the Aryan, and were not necessarily subordinate or servile. *Dāsa* on the other hand implied a class rather than a caste, as did Sudra originally. The famous *purushasūkta* verse, alluding to the origination of Sudra from the feet of the cosmic person, hint at this.

These are only some of the several learned articles that this issue contains. The following are also especially notable: "Psychological categories in Sanskrit cases" (Narang), "Free Will - an Indian Perspective" (Betel), "Medical Hydrology in Ayurveda" (Prasad), the marriage customs and traditions in the *Gr̥hyasūtra*-s (Bhatt), and the methods of disposal of the dead as sanctioned in the *samhita*-s (Shah). Two lengthy articles on aspects of "Vedic Science", one of which seeks to find in the famous formula "*pūrnād pūrnām ādāya pūrnām eva avasishyate*" the key to all mathematical transformations including Rheimannian geometry and Einstein's theory of Relativity, take up much of the bulk of the volume. The articles are typical of the wishful thinking and *ex post facto* rationalisations characteristic of such efforts.

This issue has been received with a request for exchange with *ijdl* and should merit serious attention.

T.M. MENON

Review

DECIPHERING THE INDUS SCRIPT. Asko Parpola, New York: Cambridge University Press, 1994; and Walter A. Fairservis, **THE HARAPPAN CIVILIZATION AND ITS WRITING**, New York: E.J. Brill, 1992.

The authors of the books under review give two opposing views on how the Harappan writing, the proto-form of the Dravidian language, can be deciphered. They offer interesting models for the decipherment of the Harappan script.

Deciphering the Indus Script (DIS), is a beautifully produced book. It has fine illustrations and abundant information on the history of writing in the Middle East. The author of this book, Asko Parpola, is best known for his editorship of the *Corpus of Indus Seals and Inscriptions*.

Parpola confirms that the Harappan writing was logo-syllabic and a member of the Dravidian family of languages. In DIS, we find a well balanced discussion of the archaeological data relating to the Harappan civilization, the Aryan languages and civilization, and the Hindu religion. His most interesting hypothesis is that Indian astronomy was started by the Harappans.

Parpola believes that the Harappan script is mainly concerned with astrological ideas. He argues that the Harappan signs are the names of stars and planets (p. 198).

The foundation of Parpola's thesis is not supported by the evidence in DIS. Granted, DIS provides a good discussion of Middle Eastern religion and epigraphy but it gives little information on the Harappan script. This makes his decipherment of the Harappan script simply smoke and mirrors.

Although Parpola presents some interesting interpretations of the Harappan signs, in the epilogue of his book, he shows little confidence in any of his interpretations. He admits that:

"many of the signs of the Indus script are so simplified and schematic that it is very difficult to understand their pictorial meaning unambiguously and objectively For these reasons it looks most unlikely that the Indus script will ever be deciphered fully, unless radically different material becomes available" (p. 278).

Parpola's "decipherment" fails on three points (1) his opinion that the Harappan culture was analogous to the Aryan culture, (2) his confused view of the type of script represented by the Harappan signs and (3) his lack of understanding of Dravidian linguistics. Firstly, Parpola acknowledges that the Harappans were Dravidians, but he interprets the religion and culture of the Indus Valley people from the perspective of the "living tradition" found in the Sanskrit literature (p. 240). The religion of the Dravidians is much different from that of the Vedic and Indo-Aryan people, or the Middle Easterners, used by Parpola to describe aspects of Harappan culture. As a result, he never acknowledges the role of *totems* in the identification of the Dravidian, and earlier Harappan gods (Winters 1987).

Parpola explains that he believes that the Harappan signs were logosyllabic, but he reads the signs as if they are iconographic. The interpretation of the Harappan signs as iconographic can be hazardous, because the reading of alleged iconographic signs can be prejudiced by our own views about the shapes and character of items of culture.

Finally, Parpola claims that the Harappan script is mainly written in Dravidian root words (p. 174), because it was a Dravidian language (p. 179). He also proves that the Dravidians were in the Indus Valley before the Aryan speakers, but his interpretation of the Harappan culture through the eyes of Indo-Aryan speakers is incongruent to his Dravidian hypothesis because the religious traditions of the Dravidian and Aryan peoples are different.

The failure of Parpola to learn more about Dravidian linguistics and cultural history is the major weakness in DIS. Parpola cannot decipher Harappan because he has no understanding of Dravidian history and prehistory; so he maintains that:

"Numerous signs occur only once or twice, and it is difficult to ascertain or check their meaning from the contexts with any confidence. For these reasons it looks most unlikely that the Indus script will ever be deciphered fully unless radically different source material becomes available" (p. 278).

Walter Fairservis', *The Harappan Civilization and Its Writing* (HCIW), gives a good account of his method for the decipherment of the Harappan script. He argues that the Harappan script was a cognate language of Dravidian (pp. 15-21), probably closely related to Tulu and Kannada.

Fairservis believes that each Harappan sign is a lexeme (p.23). These lexemes according to Fairservis should be interpreted by the pictorial value of each sign. He therefore assigns each lexeme with an equivalent Dravidian term that reflects his interpretation of an article of Harappan civilization.

The method Fairservis advocates for reading the Harappan signs is outlined in pages 23-24 of HCIW. Each Harappan sign is allocated a Dravidian morphological value.

Fairservis hypothesizes that the Harappan seals record the names of the Harappan seal owners. As a result he would have us believe that each seal was made for a different Harappan dignitary, even though there is ample evidence that many of the Harappan seals have generic phrases and images repeated on a number of seals.

Fairservis' decipherment fails because he is interpreting the Harappan signs based on his view of what each "pictorial" Harappan sign represents. This is a major weakness, because it is almost impossible for a person separated from the Harappans by almost 3000 years to provide accurate value to signs written so long ago. Moreover, many of the same signs interpreted by Fairservis are given different meanings when he reads different seal text. Lack of consistency in reading and interpreting Harappan signs using the methods of Fairservis makes his method of decipherment useless.

Even though Parpola believes that the Harappan script will never be deciphered, he is wrong. The Harappan script has been deciphered for over a decade.

Winters (1984a, 1984b, 1987) was able to find the phonetic value of the Harappan signs due to the common ethnic and cultural origin of the Harappans, Sumerians and Elamites (Winters 1985a, 1985). Winters (1985a) calls these people proto-Saharans.

Both Fairservis (p.228) and Parpola (pp. 36-38) make it clear that the Harappan signs are analogous to signs used in the proto-Elamite and proto-Sumerian writings. Winters (1985) illustrated that the Sumerians, Elamites and Dravidians used a common syllabic script. Using sound values of the script used by the proto-Saharans, Winters (1984a, 1984b, 1987) has been able to read all of the Harappan inscriptions by giving them the phonetic value assigned to the proto-Saharan signs, used by the Manding speaking people.

Winters (1984a, 1984b) was able to read Harappan through his understanding of the Dravidian linguistics and history. The history for use of the cuneiform script in West Asia helped make the decipherment of the Harappan script possible.

The key to deciphering the world of cuneiform writing was the fact that each sign had only one value. Decipherers of the cuneiform scripts recognized early that reading a particular cuneiform sign took only the discovery of the language spoken by the authors of the particular group of cuneiform tablets (Pope 1975, pp. 85-122). Therefore the decipherment of

the Persian cuneiform script provided the key to cuneiform cognates (Pope 1975, p.188). Winters' decipherment of the Manding proto-Saharan script made it possible to read the proto-Dravidian Harappan text.

In general, Parpola's DIS, and Fairservis' HCIW, are well intentioned books but they fail to present convincing arguments for their proposed decipherments of the Harappan signs because they fail to rely on Dravidian linguistics and cultural traditions. This is inexcusable, because there is abundance of literature on Dravidian history, culture and linguistics in Western languages and in the Dravidian languages. This literature should have been assessed by Parpola and Fairservis.

C.A. WINTERS

Bibliography

Pope, M. 1975. *The story of archaeological decipherment*. New York: Scribner's.

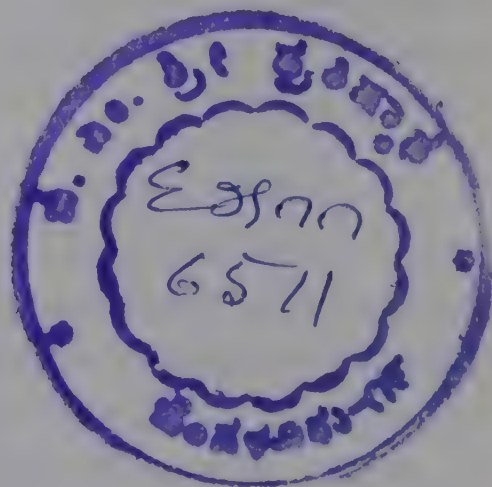
Winters, C.A. 1984a. "The Inspiration of the Harappan Talismanic seals", *Tamil Civilization*, 2(1), 1-8.

Winters, C.A. 1984b. "The Indus Valley writing is Proto-Dravidian". *Journal of Tamil Studies*, No.25, 50-64.

Winters, C.A. 1985a. "The Proto-Culture of the Dravidians, Elamite, Manding and Sumerians". *Tamil Civilization*, 3(1), 1-9.

Winters, C.A. 1985b. "The Indus Valley writing and related scripts of the 3rd millennium BC". *India Past and Present*, 2(1), 13-19.

Winters, C.A. 1987. "The Harappan Script". *Journal of Tamil Studies*, No. 30.



Review

THE BOOK OF INDIAN NAMES. Raja Ram Mehrotra (Ed.) Rupa & Co. New Delhi, 1994, PP 1-XXI + 292.

The Book of Indian Names edited by R.R. Mehrotra (New Delhi: Rupa & Co. 1994) is a welcome addition to onomastics in general and anthroponomastics in particular. It contains articles on personal names mainly and also on place names covering Indian languages like, Kashmiri, Hindi, Gujarati, Marathi, Bengali, Oriya, Telugu, Kannada, Malayalam and Sanskrit. Personal names attested among Ao-Nagas and Khasi Pnars and also in Tagore Canon are discussed separately in different articles. Representation to toponomastics is given through three papers dealing with place names of Rajasthan, Karnataka and Andamans.

Discussions on the process of naming and the relevant aspects of their structure, function, variation and use would prove to be crucial for identifying the socio-cultural and socio-linguistic assumptions and aspirations of the members of a speech community, as the symbolic system underlying the process of naming is both historically constructed and socially maintained. The Editor claims that the Volume offers names from twelve Indian languages specially viewed from the angle of different settings (tribal, non-tribal, urban-rural, educated-uneducated) and contexts (literary- non-literary, religious-secular) and that it also reveals unmistakably and with considerable authenticity, the kaleidoscopic picture of names in India against the backdrop of culture and society. His claim seems to be largely justified as the Volume amounts to both comprehensive and competent a compilation at least to a modest extent. Nevertheless, the work would naturally and perhaps inevitably excite certain points relevant for further investigations on Indian Anthroponomastics.

Anthroponomastics would definitely require a sound methodological base for the identification, classification and interpretation of names. Such a methodology would enable one to formulate a set of principles and techniques for the precise conceptualization and adequate description. The data required from different sources are to be collated and classified. Names can be classified, besides other things, profitably on the basis of their origin, structure, function, potential for change etc. For effecting the same, a set of terminological specifications becomes essential. As critical analyses progress, need may arise to coin new terms for purposes of new designations or conceptualizations. This Volume, unfortunately, is typically short of

such an article on problems of classification and terminology of names in Indian languages, although certain strategies can be gleaned out of a number of them: from papers by Mehrotra (*Hindi personal names and nicknames*), Mistry (*Personal names: their structure, variation and grammar in Gujarati*). Sjoberg (*Telugu personal names: A structural analysis*) etc. Obviously the types of classifications attempted in many papers exhibit a diagnostic deficiency in adhering to a common strategy which is yet to be evolved, perhaps. Had it been done, the book would have contributed significantly to a possible attempt for a systematic organisation and presentation of dictionary of names from Indian languages.

Subtle variation in function and structure would exert quite a bit of burden on terminological differentiation. It would make, obviously, the sub-classification and their further classifications difficult and confusing. At the same time, an analysis which gets excited on such exercises may resort to a sort of terminology formulation spree. As a result terms like abbreviation, abridgement, contraction, diminution, metamorphosis, nicknames, pet names, reduction, shortening, telescoping, transformation etc., are profusely made use of in anthroponomastic literature. Interestingly, more than a dozen types of diminutives are identified by some. (cf. Partridge 1953, Withycombe 1963 etc.) They try to distinguish even adapted names, adopted names, affected names, alternate names, fused names, moribund names, superanimated names etc. All these would indicate the nebulous distinctions identified. In fact, the majority of the authors in the present volume are not obviously under any such pressures. However, Mehrotra (diminutives, pet names, nicknames), Mistry (truncated names, shortening of names), Dhongde (fashionable names, modification, reduction of names, obsolete names), Murigeppa (shortened names, abbreviated names, pet names) have tried to be aware of this aspect.

Although a number of authors make ample use of the term nick name, only Mehrotra tries to define it, of course, broadly to include even pet names of diminutives of personal names because they share the same role, serve the same function and are governed by the same set of rules and that the conditions in which they are used are also identical. Both in organisation, presentation and argumentation, Mehrotra's paper stands out as relevant and competent in this Volume. If names are not examined in relation to their sociocultural matrix in defining interpersonal relationship, as he has attempted, the scope of personal names studies will considerably be limited.

In coverage of data collection and listing, papers on Kashmiri (Khan and Koul) Hindi (Mehrotra) Marathi (Dhongde) Bengali (Sircar) Oriya (Patnaik) Indian Christians (Vasantakumari), Malayalam (Rajasekharan Nair) are to be specifically mentioned. Kunjunni Raja handles a difficult

topic of personal names in Sanskrit literature with considerable ease and elegance. Reference to names *Kuruvila*, *Koṣhi*, *Pothen*, *Korah* etc., as family names by Vasantakumari (*Personal Names of Indian Christians*) seems to be misleading, although her observation that in some cases, the names of houses are eventually changed into family names is true.

Undoubtedly, this Volume would be an indispensable source of reference for those who intend to venture on an anthroponomastic outline of the Indian linguistic area. The Editor deserves our appreciation. The present Volume makes the question 'What is in a name?' much more basic, relevant and provocative for a careful and comprehensive answer.

A.M. MARYKUTTY
International School of Dravidian Linguistics



Review

SÉMANTIQUE GÉNÉRALE. Bernard Pottier, Presses Universitaires de France, Paris, 1992, pp. 237.

Professor Pottier's *Sémantique Générale* (SG) comes at the end of over thirty years of sustained engagement with linguistic semantics. The book appears as a sequel to the author's two earlier works, *Linguistique Générale* (1974) and *Théorie et Analyse Linguistique* (1987). Beginning from the early sixties, Pottier has been at the centre-stage of French linguistics. He has remained loyal to the field of Semantics even when a majority of the linguistic practitioners had switched allegiance to a paradigm that was avowedly rooted in Syntax. After his retirement from the Sorbonne (Paris-IV, where he is now Emeritus Professor), Pottier must be pleased to note that some of the conceptual and analytical tendencies that he introduced during the course of his career are now finding a wider audience.

Though Pottier's Semantic perspectives have always remained open to Semiotic and Cognitive considerations, in the present work they are more explicitly elaborated. We must note at the outset that the General Semantics sketched here bears no resemblance to the Anglo-American and German tendencies bearing the same name, whose lineage goes back to G. Frege and B. Russell and the Vienna School of Philosophy. Pottier's Semantics is not a logical semantics, but is an event-based, topological and dynamical semantics, whose affinities can be traced to the somewhat enigmatic works of his *guru*, Gustave Guillaume and to the French mathematician René Thom. Thus, instead of the usual discrete logical notations and algebra-like equations, the reader finds a plethora of continuous forms, figures and other diagrammatic representations.

SG contains four parts, divided unequally into fifteen chapters. The first part is devoted to situating Semantics within Linguistic theory. The author is sensitive to the two basic cognitive directions of meaning, namely that of speaking, and understanding, and consequently Semantics has two corresponding (but asymmetric) sub-branches, onomasiology and semasiology. The onomasiology direction has the referential world as the orienting point, and heads towards the utterance via conceptualization and semiotisation. While, semasiology starts from the speaker's utterance and proceeds via recognition and comprehension to end in possible discourse response. The linguist who studies linguistic exchanges has to cope with four distinct domains, namely, the referential, the conceptual, the linguistic (structure),

and the utterance (use). Further, there can be four distinct semantic domains: referential semantics (concerned with designation), structural semantics (internal semic relations), discursive semantics (organization of the utterance), and pragmatic semantics (presupposition and intentionality). Closely related to these domains, one has still to take into account three distinct kinds of references: textual semiotics (concerned with genres of expression), parallel semiologies (other modes of representations), non-linguistic semantics (formulae, equations, etc.).

Pottier views the utterance as a speech event that is preceded by knowledge represented in the memory, followed by the speaker's intentionality, and accompanied by an internal or external (situational) context. These dimensions are studied under pragmatic semantics. The knowledge that precedes language may be strictly linguistic knowledge, cultural knowledge or knowledge about the world.

In the chapter on the linguistic sign, the author notes that there can be distinct representations corresponding to the perspectives taken by the speaker with regard to an event. The minimal sign unit, may be a morpheme, a word, or a *lexie*, the last defined as a "sequence of words memorized as an individualized sign" (p. 34), which also subsumes the idioms. As it is for the Cognitive grammarian Langacker, there exists a continuum of lexical (*lexeme*) and grammatical (*grammeme*) morphemes. Following Guillaume, words are seen as the product of a *lexigenesis* and a *morphogenesis*. While the former is inevitable, the latter can vary from zero in the isolating type of languages (e.g. Chinese) to multiple manifestations in the agglutinating type. One may also notice cases of *syntaxie* where "the minimal constructional unit is an integrated syntagm". (p. 39)

Signs occur as polyvalent, either naturally (e.g., extension of a preposition from the spatial to the temporal and the notional domains), or by way of metaphor, which yields polysemy. Homonymy may be defined as a case of polysemy where the motivation (semantic extension) is not evident. Motivation is evident when there exists an analogy or "isomorphism" between an additional morphological feature and a semic extension, as is often the case with the grammatical gender, tense and other inflections. Motivations may be present in internally generated words like 'automobile' or in mixonyms like 'motel' etc. Further, there can be anthro-pomorphic (i.e. body-part) metaphorical motivations as is evidenced in the polysemic uses of 'feet', 'trunk', 'head', etc.

Surveying the existing semantic models, Pottier rejects those employing abstract, discrete terms in favour of models that use continuous forms. The logical and algebraic models are seen as unsuitable for natural language (NL) owing to the semantic non-rigidity/undecidability of NL terms. Besides, the linear order of terms is significant in NL. Even the typically

French (Greimasian) model of the 'semiotic square' is left behind in favour of a cyclical schema on which a larger range of chronologically varying experiences can be represented. This variation in time, as the central tenet, is evident in Pottier's espousal of the Guillaumian model which makes it possible to see a conceptual 'chrono-logie' underlying the degrees of transitivity varying from a maximum in the case of the event "meeting", through "killing" and "eating", to a minimum (or nil) in the case of "walking". From Guillaume's to the other event-based semantic model of René Thom is a small step for Pottier who prefers to view the latter's archetypal morphologies as a system of 'noemes' or preconceptual interactional schemas subtending the verbal paradigm.

The second part dealing with "conceptualization and universals" form the core of the present work. A language user's contact with the world begins with perception, which presents it (the world) along a linear progression of perceptibility-values, viz., latency, salience and pregnance, which have, respectively, pre-formal, formal and functional relevance. Conceptualization is seen as resulting from the unity of the perceptual manifold, and as the basis for the choice of the appropriate representational form. Concepts and schemas are the "support system for the mental scenes created by the speaker and recreated by the interpreter" (p. 62). Pottier suggests that thanks to the conceptual schemas, both form and meaning of linguistic expressions can be recognized even under noise-ridden or inadequate signal conditions. A similar principle separates the prototypical members from the peripheral members of a category: after a member is conceptually fixed within a category, it can be used for signifying related meanings. Metaphors also rely on conceptual schemas which can be extended, for example, from the temporal domain to the spatial and the modal: the French verb 'arriver' can be used to mean "to happen", "to reach", and "to be able to". One may object to the order where the temporal precedes the spatial, but it is indeed in keeping with Pottier's event-centred approach.

After a quick survey of the systems of semantic universals proposed by workers like M. Swadesh, I. Melcuk, J. Sowa, and A. Wierzbicka, the author proposes a distinction between general concepts (or, Concepts) and universal concepts (or, Noemes). The 'Concepts' account for all the perceptually discrete entities as well as the commonly experienced qualities and activities, in the world. The concepts which originate in human experience - from the natural and cultural domains -- yield the semantic universals, or semes. The Noemes, on the other hand, are "abstract, relational representations of experience, whose linguistic manifestations can be quite diverse in NL" (p. 71). They can be identified as a common domain of forms in all NL. These include modes of organization of time, space, movement,

potency, modality, etc. The Noemes are assigned several kinds of graphic representations corresponding to the mental imagery assumed for each. We are told that concepts, general and universal, relevant for semantics, are products of human experience, and more significantly, "grammar is only a generalizing abstraction of human experience". (p. 72)

The author notes that the relative order of the morphemes - lexemes and grammemes - often bears an isomorphism/ iconicity with the conceptual order. However, this order can be syntactically reversed. The natural hierarchisation system that Pottier proposes, identifies a conceptual agent of event, a syntactic subject of utterance, and a pragmatic intentional theme. The agent is defined as having potency (+), and the patient as potency (-).

The chapter on "Evenement" (Event) is perhaps central to the work. An event is a complex consisting of a perceived Entity and a number of "Comportements" or activities that it is involved in at a given moment. Pottier notes that though at the conceptual level the Comportment is secondary, the order is reversed at the linguistic level where it is primary and is actualized in the verb which functions as the actantial organizer. ('Actant' is a term introduced in French linguistics by L. Tesnière to refer to the participants in an action represented by a verb. It is reminiscent of the term 'karaka' of the Indian grammarians.) In the place of Tesnière's tri-actantial scheme, and inspired by René Thom's topological semantic schemas, Pottier proposes a typology of event-fields, consisting of simple Existence (in space and time), Property, Activity, Localization and Cognition. What is at the base of this typology, is an event - continuum where entities with plus or minus potency are in interaction. Thus, a Property is something that an Entity (-) experiences (e.g., 'hunger'), while Activity is something emanating from it (+) (e.g., 'eat'). In a bi-actantial interaction, the potential difference between the actants determine the direction of the experience (patienthood) and the activity (agenthood). In this manner, Pottier's semantics is, strictly, a physicalist semantics based on entities, events, fields and forces.

Curiously, even the field of Property stretches from a minimum of activity as in simple adverbial type (John is tall) to a maximum as in a passive construction (John is attacked). This viewpoint is useful in explaining the proximity between the adjectival and the verbal categories evident in many languages. Location can be in the Spatial, Temporal or Notional domain. Moreover, from his dynamicist perspective Pottier notices a continuity from the Property and the Location fields, on the basis of a crypto-agentivity displayed by the locative constructions: there exists verbs of location, 'situate', 'surround' etc., that relate the two entities. Besides, adjectival ('*is angry*') and passive ('*to be embraced*') constructions can be expressed as locatives ('*in anger*') and ('*to be in embrace*') respectively.

The field of Activity, expectedly, extends from actions involving a minimum of patienthood as in the intransitive 'breathe' to those with a maximum of patienthood 'eat (fish)'. Cognitivity, according to Pottier, involves "perception by the senses as well as all the intellectual activities" (p. 105). Here again, the author makes strange connections: relational knowledge ('savoir') can be substituted by the possessive 'have' ('avoir') as in 'I have a car'. Similarly, possession (He has two legs) can be rephrased as Property (He is biped). The verbs of perception and knowledge are readily metaphorically transposed as modal verbs as in 'I see your point'. We shall note here that Eve Sweetser's work (1990) has a detailed study of the semantic shifts from perception to modal verbs in English.

A comportment can have different statuses in the mental representation. These are Stative, Evolutive and Causative. Stative is defined in Evolutive terms as a "frozen image" upon the latter. Thus, it can describe not only a state but also a continuous process. Causative (e.g., 'to wake someone') involves "the action of an entity which provokes the evolution of another entity" (p. 109). A second level of causation, where X makes y to do something is referred to as Factitive. Thus, on the basis of the five event-fields and the three statuses, there can be fifteen configurations which are presented with examples. The event patterns identified receive detailed analytical treatment in subsequent chapters.

The third part is concerned with lexicalisation and syntactisation of the semantic structures already discussed. Expectedly, the author is opposed to a conception of former which ignores the external (referential) world, and hence the process is referred to as semiotisation, and seen as subsequent to initial perception. On the basis of the degree and nature of the deviation from the most appropriate signifier-signified relation (i.e., orthonymy) Pottier identifies three more types of semiotisation processes, namely, metonymy, metaphor, and peronymy. In metonymy, the signifier-signified relation is established visually, while in metaphor it is a function of (associative)-imagination. A peronym is a periphrastic representation of a signified.

Within the sentence, the relationships between the semantic participants, or the "actants" constitute an actantial module forming part of the schema of understanding (cf. Fillmore's 'cognitive scene'). Here, spatiality (of the action) is taken as a 'participant' along with other participants. In this way, Pottier does not see any essential difference between sentences with or without a spatial preposition. This is evident also from his discussion of Fillmorean 'commercial event': in 'buy' the buyer has the potency value +, while in selling this value is shown to be with the seller. These are indicated by diagrams involving straight lines for buyer and seller, curved lines for the objects of transfer. For 'give', 'send', 'say', 'inform', 'advise',

etc., there are separate diagrams with only one object moving between the actants, with additional specifications.

Pottier's 'predicate schemas' are again grouped as localization, cognitivity, activity, and property. Under localization, the author notes a homology between the pairs localized/localizer, animate/inanimate, and variable/stable. Taking the last pair, one can have the diathetical opposition between 'There is some milk in the pot' (Direct: variable/stable) and 'This pot contains some milk' (Inverse: stable/variable). At the level of cognitivity, the Direct/Indirect order takes the form of I / the object of cognition. The active/passive opposition is discussed at the level of activity. Here, however the author again employs the useful concept of +/- potency. The direct and inverse diatheses involve the NP with + or - potency appearing initially.

According to the author, "the predicate schemas are manifested in language by means of syntactic constructions, or 'sentential models'" (p.148) referred to as syntaxies that are memorized in competence. These are essentially intercasual relations involving: who does +, what-, to whom-, because of who + /what-, with the help of who + /what-, why- (to what end), where, when, how. The nucleus consisting of the first two has three underlying values +, - and O, which appear in NL as ergative, accusative/dative and Nominative/Absolutive respectively. The remaining roles are that of Source, Agent, Instrument, Result, Destination, Benefactor and Locatives of space, time and notion. All these interesting ideas are presented diagrammatically, but with an uneasy degree of economy.

The fourth part of the book contains discussion on the semantico-grammatical categories that go beyond the propositional nucleus: actantial features, determination, aspect, tense and modality. At the end of the operations involving these categories one gets the Resultant Schema of the final utterance output. The category of person, discussed under Determination, is seen to involve a continuous axis of depersonalization: I, You, he/she (human), it (thing) and it (impersonal). A similar axis is also assumed for the determiners. There is mention of the formal affinity between the numeral and the indefinite article (e.g., Eng. one, an) and that between the 'contextual deictic' (definite article) and the 'situational deictic' (demonstrative) (cf. Malayalam, *ā* and *adu*).

Actant ('semantic participant in an event') is defined in terms of +/- potency and +/- volition (capacity on the part of the actant to voluntarily control an activity). Thus a 'proper noun' has the value P+ and V+, fire has P+ and V-, and table P- and V-. The category of Aspect is seen as intertwined with members of the Status category of the verb, Stative, Evolutive and Causative. The temporal unfolding of the event has the following phases: Prospective, Imminent, Inchoative, Cursive (Progressive), Terminative, Resultative, Inceptive/Ingressive, Cessative, and Continuative. The

description of the tense division, past, present and future in terms of knowledge, current experience, and desiring, respectively has a classical (Augustinian) touch about it.

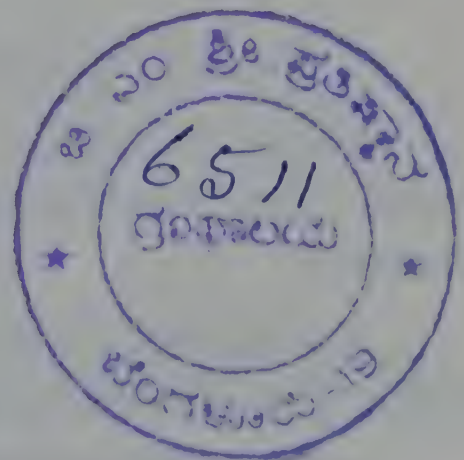
Modality category is subdivided into Epistemic, Existential and Factual. While, the first endocentric (with respect to the speaking subject) and oriented to perception, knowledge, and belief, the second is exocentric, and oriented to the action of doing or saying. The placing of the ontic and the alethic both under the Existential modality is surprising, because usually the Existence and the Necessity modality are assigned different values. Similarly, the category of Mood (Optative, Imperative, etc.) which concern intersubjective relations are discussed under Modality.

In conclusion, we shall note that what the author actually presents is a volume on general linguistics concerning diverse aspects of sentence production and comprehension, all seen from a strictly semantic perspective. The work can serve as a deep reference book for the initiated and the professional expert, but it leaves no scope of access for the ordinary undergraduate reader.

FRANSON D. MANJALI
Jawaharlal Nehru University
New Delhi

Bibliography

- Fillmore, Charles J. 1977. "Scenes-and-Frames Semantics", in A. Zampolli (Ed.) *Linguistic Structures Processing*. Amsterdam: North-Holland.
- Sweetser, Eve. 1990. *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantics Structure*. Cambridge: Cambridge University Press.



Review

**NEW ADDITIONS OF DIALECTAL VOCABULARY AND
DICTIONARIES TO THE BENGALI SECTION
OF THE ISDL LIBRARY**

1. **Ḍuārser Lokāyata Śabdakoṣ (Part-I)** compiled by Krishnapriya Bhattacharya, 1990, Tistapakṣa, Jalpaiguri, West Bengal, p. 115 (including 2 charts), Rs. 75.00/- (HB).

Thanks to the author for gifting the volume to the ISDL Library.

It is a collection of multilingual vocabularies such as English, Bengali, Hindi, Rajbansi, Bodo, Sadri, Rabha and Santali as spoken in Duars. The second part (forthcoming) will deal with Garo, Kurukh, Lepcha, Kharia, Toto and Dukpa, the other common languages used in this part of the region.

The foothill of the Himalayas in between the rivers of Tista and Sankosh, in the district of Jalpaiguri, at the northern part of West Bengal is known as Dooars or Duars. The area is a concourse of different ethnic groups, belonging to the Austric, Tibeto-Burman, Dravidian and Indo-Aryan families.

The preface gives a glimpse of the landscape of Duars and the brief description of the languages dealt with in the present volume.

More than 1,100 words have been listed under 45 broad headings. These comprise of common vocabularies such as kinship terms, numericals, colour terms etc., natural objects such as birds, animals, fruits, flowers etc., and cultural items like dress, ornaments, food, fishing equipments and so on.

A few common sentences are also included in it.

The listing follows the English alphabetical order. Except the English entry, Bengali scripts have been adopted for transliterating all other languages.

It is not that the author is unaware of the limitations of the work (as mentioned in the preface), yet a few suggestions are offered.

A fresh look at the order of the languages. It may be rearranged as English, Bengali, Rajbansi, Hindi, Sadri, Bodo, Rabha and Santali which would be significant as regards to linguistic contrast. For some of the entries

the other common synonym could have been furnished, e.g. besides *lābh* 'profit', *munāfā* is another common word, used in Hindi, which probably has been borrowed in Bodo, *munāmfā* (p. 96). In Bengali *cāḍ* 'moon' is the more popular form than *candra*. If Roman Scripts had been adopted, the book could have reached a wider readership interested in this field. A good number of examples have to be verified.

The get up and the cover of this hard bound volume is attractive.

The zeal and enthusiasm of the compiler deserves hearty congratulation. This single-handed work is a praiseworthy attempt.

2. **Āncalik Bhāṣār Abhidhān (Part-I)** 'a-i', Chief Editor, Dr. Asit Kumar Bandyopadhyay, 1991, Calcutta University, West Bengal, p. 159 + 16 maps, Rs. 100/- (HB).

We express our thanks to the Department of Higher Education, the Government of West Bengal for the complimentary copy of this volume.

Prof. Asit Kumar Bandyopadhyay, the Chief Editor of the Dictionary is a renowned authority of Bengali language and literature. In an elaborate introduction he gives an overview of the history of Dialectal Dictionary compilation in different languages throughout the world with special reference to Bengali. A note on the varieties of Bengali Dialect is an informative addition. The methodology of collection of data and the obstacles the field workers had to overcome, are equally interesting.

This ambitious venture is a co-operative effort of *Gaveṣanā Paṛiṣad*, Department of Bengali and Linguistic Department both of the Calcutta University and the Government of West Bengal.

The volume includes only the first three letters i.e., *a, ā* and *i* which number nearly 5,000 entries. These have been transcribed in IPA Script, at-most near to the exact pronunciation.

The format of the entry may be exemplified below.

Entry (Bold, in Bengali Script), Phonetic transcription (Bold, IPA), Parts of Speech (In Bengali), Gloss (St. B. and English), Citation (in dialect), Gloss (St. B.) (district and thana names are indicated by no.).

Citations have been given wherever necessary.

The single entries which show variations of meaning in different parts of the region are meticulously arranged, e.g. the word *āl* is used with 12 different shades of meaning in 13 districts of West Bengal.

Besides, the single words bearing same meaning with differences in pronunciation are also interesting, e.g. St. B. *āt poure* (dress for every day use) shows 17 variations of pronunciation in 22 thanas in different districts of the region.

Brief but lucid descriptions have been given to depict the cultural items such as folk games, folk rituals, folk customs, medicinal plants, occupational terms etc. Drawing illustrations and coloured or black and white photographs enrich the volume. The dialect maps of 16 districts of West Bengal give interesting scenario of the dialectal situation in this State.

The book is neatly printed in offset type and bound.

This slender volume records the indefatigable labour and sincerity of a well-knit team. It is a welcome addition to the area of Dialectal Studies and lexicon.

We hope to see the other parts of the volume in near future.

3. **Mānbhūmī Śabdakoṣ (Dialectal Dictionary of Manbhumī Bengali)**, Ed. by Subodh Basu Ray and Naranarayan Chattopadhyay, Chatrak Prakasani, Purulia, West Bengal, 1990, p. 190 (including Appendix and errata), Rs. 30/- (HB).

It is stated in the introduction that the Manbhumī (variety of) Bengali is spoken in the western part of West Bengal i.e. in Purulia district and in some parts of the districts of Bardhaman, Bankura and Medinipur. The variety is also used in the adjacent areas of Bihar, such as Dhanbad, Singhbhum and in some parts of Ranchi and Hajaribag districts. It shows ample influence of Dravidian, Austric and the neighbouring Indo-Aryan languages like Kurmali, Bhojpuri, Maithili, Hindi, Oriya, Sadani, Khadiboli etc.

More than 3,500 entries and nearly 350 proverbs have been included in this book.

The format of the entry has been furnished below.

Entry (Bold in Man.B.), Parts of Speech (in Bengali), Gloss (in standard Bengali). Citations have been given for most of the entries.

Bengali scripts have been used. A few special symbols have been adopted to give the near accurate pronunciation of the dialect.

A good number of reduplicated words evince the Austric influence.

The phonetic changes of some sounds as *e*, *ka*, *ga* etc., in contextual variations have been illustrated with examples in the beginning of the section of that respective letter. Some interesting entries reflect the culture of this part of the region. e.g.

pāt' bhātār (lit. *pāt'* 'routine duties of a household' + *bhātār* 'husband') Man.B.
'One who is the paramour of his maid servant'.

parcan - Man.B

'the extra wheatflour which is used for making *cāpāti* so that it does not get stuck while preparing'.

māchi-ādhār (lit. *māchi* 'housefly' + *ādhār* 'dark') Man.B.
'the time immediately after dusk'.

mātāl kādā (lit. *mātāl* 'drunkard or saturated' + *kādā* 'buffalo') Man.B.
'the buffalo for buffalo fight'.

māgan (St.B. 'begging') Man.B.

'a tax imposed by the feudal lords in earlier times. During their daughter's marriage they themselves would visit the villages to collect this tax'.

The proverbs are also interesting.

This sort of work requires patience and perseverance. No doubt the editors have done full justice to their job. Yet there remained a few shortcomings which may be taken care of in the next edition.

Probably, *ū* does not occur in Manbhumi Bengali. In this dictionary there exists no separate section for this letter. But a few words such as *ūrum*, *ūlā*, *ūsṛā* etc., included under the heading *u* are confusing.

Inconsistency in spelling is found, e.g.

māṇṇā (p.185) - *māṇṇā* (p.107)
bihā'lā (p.98) - *bihālyā* (p.184) etc.

Many of the words used in the citations and proverbs are not found in the main text. e.g. *ጃጃ* in the citation for *khēnkhe'nā* (p.153.), *cጃṇā* (p.183), *ጃṇṇāḡ*, *dhe'ṇṇāḡ* (p. 187) etc., in proverbs. This makes the proverbs unintelligible to the Bengali speakers of the other parts of Bengal.

But in some cases, it is redundant. e.g. *kulhi* 'village path or locality' is found along with gloss both in p.34 (main text) and in p.174 (proverbs), *lālā* 'outlet' in p.122 (main text) and p.175 (proverbs) etc.

In few cases the main entry is missing while sub entries are available in the dictionary. e.g.

muḥā 'mask', *muḥacālā* 'the facial expression of Chou mask' are listed in the work while *muḥa* 'face', the main entry has not been included.

In spite of a few such limitations it is a good work. The sincere endeavour of the editors deserves appreciation.

The volume is well-bound with a neat appearance.

*Man.B. - Manbhumi Bengali.

**St.B. - Standard Bengali.

SANGAMITRA SAHA

PUBLICATIONS RECEIVED

Symposium on Dravidian Civilization. Andree F. Sjoberg, Jenkins Publishing, 1971.

Thamizhā Thalaimai Thānka Vā. Aravanan, K.P., Tamizhkoottam, Puthussery, 1994.

Pataippanin Samudāyamilakkiyum. Aravanan, K.P., Tamizhkoottam, Puthussery, 1995.

Ariviyal Thamizhiyam. Aravanan, K.P., Kiranam, Puthussery, 1995.

Temples of Space Science. Ganapati Sthapati, Vastu Vedic Foundation, Madras, 1996.

Vastu Sāstra. Ganapati Sthapati, Vastu Vedic Foundation, Madras, 1996.

Fire in the Soul. Gopi Krishnan, Great Hawk, Madras, 1995.

Society in Kural. Kamatchi Srinivasan, Madurai University, 1995.

Thamizhil Thalapurāṅgal (Part I & II). Madhavan, V.R., Paavai, Thanjavur, 1995.

Ilakkana nūrchurukkam. Manikantan. Y., TRNML Tanjore, 1993.

Western Literary Criticism: an introduction. Meenakshi Murugarathanam, Ilakkiyathiranaayuvu, 1987.

The art of short story of Kalki. Meenakshi Murugarathanam, Madurai, 1976.

Economic ideas of Thiruvalluvar. Murugarathanam, T., Madurai University, 1975.

Kingship. Murugarathanam, T., Madurai University, 1974.

Tamizhiyal āyvu. Murugarathanam, T., International Society for Tamil Cultural Studies, 1994 & 1995.

Bhāsha Parimalam. Naduvattom Gopalakrishnan, National Book Stall, Kottayam, 1994.

Amaravati Kathalu. Nagamani, K., Master Printers, Hyderabad, 1993.

Tolkāppiyar Akattinai Viḷakkam. Ramayya, N., Madras, 1994.

Practical Russian (Grammatical Stylistics Part I & II). Sankaran Unny, K.P. Centre of Russian Studies, JNU 1986.

Bharatidasan critical perspective. Satchidanandan, V., Department of Tamil Studies, Madurai, 1991.

Introduction to African Languages. Sathur Sekharan, International Linguistic Centre, Madras, 1994.

Tamizhil Vacaippadalkal. Thasarathan, A., Tamizh olaichuvadital, 1994.

Aruñcunaikātta Ayyanar Koyil Kaiyetu. Thasarathan, A., Centre for Presentation of Tamil Palm Leaf Manuscript, 1994.

Vidyāsāgar Rachanabali (Part I & II). Tirthapati Datta, Tulikalam, Calcutta, 1991.

Journals

Language, Vol. 71, Nos. 1, 2 & 3.

Linguistic Abstracts, Vol. 10, No. 4; Vol. 11, Nos. 2,3 & 4, 1994 & 1995.

International Journal of Translation, Vol. 4, Nos. 1 & 2, 1992.

Mathematical Linguistics, Vol. 19, Nos. 7 & 8; Vol. 20, Nos. 1, 2 & 3.

Kālachuvadu, Vol. 11 & 12, 1995.

Man and Life, Vol. 20, Nos. 3 & 4; Vol. 21, Nos. 1 & 2, 1994 & 1995.



NOW AVAILABLE

ENCYCLOPAEDIA OF DRAVIDIAN TRIBES (VOL I)

Ed. T. Madhava Menon

H.B., Demi 1/4, Pp 405, Rs. 950/-

The first is a thematic Introduction arranged in a series of articles on physical anthropology, history, geography and environment, material culture (including economic activities), social organisation, religion, life cycle rituals etc. This volume also contains a series of articles on forest policy and forest-tribal interfaces by contributors including Dr. Basha IFS, Director of Kerala Forest Research Institute, Peechi.

Its Composition:

Total No. of articles	- 87
Contributed articles	- 21
Written by Staff	- 66
Line drawings	- 1
Maps	- 6
Photographs	- 43

ENCYCLOPAEDIA OF DRAVIDIAN TRIBES (VOL II)

Ed. T. Madhava Menon

H.B., Demi 1/4, Pp 403, Rs. 960/-

The second volume contains ethnographical reports on the communities in Kerala, Karnataka, Tamil Nadu and some communities of Andhra Pradesh. Articles on the languages spoken by some of these communities have also been featured. The communities have been arranged in the alphabetical order of their ethnonyms transliterated into English.

Its Composition:

Total No. of articles	- 108
Contributed articles	- 32
Written by Staff	- 76
Line drawings	- 2
Maps	- 63
Photographs	- 42

NOW AVAILABLE

TEXTUAL VARIATION OF TOLKAPPIYAM

(Tolkappiya Mūlam Paḍa Verpaḍugal: A I nōkkayvu)

K. M. Venkataramiah, S.V. Subramaniam, P. V. Nagarajan.

H.B., Double Crown, Pp 460, Rs. 400/- (Tamil)

This is a massive and accurate work which lists the variations in readings found in published works beginning from the 1847 palm-leaf manuscripts, especially from U.V. Saminatha Iyer's Manuscript Library, Madras, from different interpretations found in the annotator's beginning from Ilampuranar of 12th century A.D., Teyvacilayār, Cēnavaraiyar, Pērāsiriyar, Naccinārkkiniyar and modern commentators like Balasundaram and others.

The reasons for preferring one or the other reading are listed in the footnotes which are detailed.

The recovery of the original text on the basis of the principles of manuscript-editing, though not done exhaustively, in several places, the correct reading with reasons are given. Future research has to attempt the recovery of the Ur text. For such an attempt, the present volume will form the basis. Tolkappiyam (easily of the 2nd, century B.C) has influenced the Malayalam work Līlatilakam (14th century A.D.), Kesiraja's Sabdamāṇi Darpaṇa of Kannada and Early Grammars of Telugu. Among the two early schools of grammars in India - Pāninīyam and Kātantra - Tolkappiyam belongs to the latter school, mostly followed by Jains.

The subject matter of Tolkappiyam is to elaborate the love (akam) and war (puram) themes of the Sangam Classics. The third chapter on poruḷ (themes) deals with this aspect very exhaustively. The first chapter on sounds and the second on morphology and syntax are based on poetic works on the two themes of akam and puram. It is found that these two themes are unique in ancient Sangam works which had received contributions from Kerala, southern Karnataka and the southern parts of Andhra Pradesh. Parallels in other literatures of the world, including Egypt where it was vaguely suspected that similar themes were found, are not yet identified. The total number of sutras which vary from one ancient annotator to another is listed. An appendix containing the index of the first words of the sutras is also given at the end.

ANNOUNCEMENT

SILVER JUBILEE CELEBRATION OF THE INTERNATIONAL JOURNAL OF DRAVIDIAN LINGUISTICS

24TH ALL INDIA CONFERENCE OF DRAVIDIAN LINGUISTS

20-22 JUNE, 1996

&

2nd INTERNATIONAL SEMINAR ON DRAVIDIAN LINGUISTICS

23-24 JUNE, 1996

VENUE: DRAVIDIAN UNIVERSITY, KUPPAM, CHITTOOR DISTRICT, A.P.

SPONSORED BY

INTERNATIONAL SCHOOL OF DRAVIDIAN LINGUISTICS

DRAVIDIAN LINGUISTICS ASSOCIATION,

INDIAN INSTITUTE OF DRAVIDIAN STUDIES

THEME OF THE INTERNATIONAL SEMINAR

NEW GRAMMARS FOR AUTOMATIC TRANSLATION-
CHALLENGES AND CHANCES

SILVER JUBILEE FELICITATION LECTURES

Prof. William Bright

Former Editor of the Journal *Language* & The Editor of the *International Encyclopedia of Linguistics*, University of California, Los Angeles (USA) will preside.

Prof. Teun Hoekstra

Editor of the Journal *Lingua*, The Netherlands will felicitate.

REGISTRATION

1. Silver Jubilee Celebrations and 24th All India Conference

Registration fee for the Silver Jubilee Celebrations of the *ijdl* and the 24th DLA Conference is Rs. 300/- (US \$ 30/-). Life-members and student-members need to pay Rs. 150/- (US \$ 15/-) only. The bonafide students and research scholars have to produce a certificate from the Head of the Department, stating their student status, to avail of the concessional registration. The registration fee includes food and accommodation. Accompanying persons have to be registered by paying Rs. 300/- (US \$ 30/-). Participants are requested to fill up the registration form (already sent) and return it to the Organising Secretary along with the registration fee before *15th May 1996*.

Deadline

For abstract : *20th May, 1996* Full length paper : *10th June, 1996*

Papers

The abstracts received till 20th May, 1996 will be mimeographed and circulated. Scholars are requested to bring copies for circulation for late abstracts. Parallel sessions will be necessary. But the schedule for the day will give you enough information to choose the papers you want to listen to.

2. International Seminar

The registration fee for the seminar is Rs. 200/- (US \$ 20/-) which covers food and accomodation. Accompanying persons are also to be

registered separately. Participants are requested to fill up the registration form (already sent) and return it to the General Secretary along with the registration fee before *30th May, 1996*.

ENDOWMENTS IN THE DLA AND THE ISDL

The DLA and the ISDL offer prizes to scholars, young and old. An honour worth winning helps the young scholars in getting good placements, and the old ones, recognition for their work.

1. **Mrs. Katre Memorial Prize** of Rs. 250/- for the M.A. topper in Linguistics (1995-96) from any Indian University. The last date to submit the mark-sheet is *30th May, 1996*.
2. **Award for the best paper in the Conference**, of Rs. 1000/- will be awarded by the ISDL, to the best paper presented by a 'young scholar' (M.S/M.Phil./Ph.D. student).
3. **Award in the name of Prof. K. Anbazhagan for the Translation of Tolkappiyam** in any international language, offered by the DLA, carries a prize of Rs. 3000/-. The book should have been published three years before 30th May 1996. The last date of entry is *30th May, 1996*.
4. **Award for the Best Monograph on Dravidian Tribes** of Rs. 3,000/- offered by the ISDL. The monograph should be in English, published within a period of 10 years before 30th May, 1996. The last date of entry is *30th May, 1996*.
5. **C. Achuta Menon Prize** of Rs. 2,000/- for the best article or book on Computer and Language, published in an Indian journal by an Indian author. The last date of entry is *30th May, 1996*.
6. **Dr. George Jacob Award for the best monograph on Dravidian Linguistics** in any Indian language other than Dravidian, awarded by the DLA, carries a prize of Rs. 1,500/-. The monograph should have been published within the 10-year period before 30th May, 1996. The last date of entry is *30th May, 1996*.
7. **Prof. K.M. Venkataramaiah Award** for the study of Linguistic Minorities carries a prize of Rs. 2,000/-. Indian publications, written in any International language other than Indian, and published between May 1991 and May 1996 are eligible for entry. The last date of entry is *30th May, 1996*.
8. **Endowment for creating a Tribal museum in the memory of Gundert** for which a sum of Rs. 50,000/- has been endowed by Sri. T. Madhava Menon. Yearly, Rs. 5,000/- is used to augment the Museum.
9. **Smt. Lachhmi Jessaram Gidwani Memorial Endowment** of Rs. 1,500/- to deliver a lecture on any aspect of linguistics. (The lecture is by invitation).
10. **Hermann Gundert Endowment for the Best Dictionary, Lexicon or Encyclopedia**, of Rs. 2,000/- on any major Dravidian language or Tribal languages including Brahui, published between *May 1986* and *May 1996*.

Contact Address:

up to May 31, 1996

The Organising Secretary/
General Secretary
ISDL Complex, St. Xaviers College P.O.,
Menamkulam,
Thiruvananthapuram 695 586,
Kerala (Ph. 0471 - 418953, 418951)

From June 1, 1996

The Organising Secretary/
General Secretary
Indian Institute of Dravidian Studies
Krishna Arjuna Tapovanam,
Gudupalli Road, Kuppam 517 425
A.P. (Ph. 04579 - 55061, 55062)

Statement of ownership and other particulars about the ijdl

FORM IV

(See Rule 18)

1. Place of publication: Trivandrum
2. Periodicity of the publication: Biannual
3. Printer's Name: V.I. Subramoniam
- Nationality: Indian
- Whether citizen of India: Yes
(If foreigner, state the country of origin)
- Address: V.I. Subramoniam,
Hon. Director, International School
of Dravidian Linguistics, Trivandrum
4. Publisher's Name: do
- Whether citizen of India: Yes
(If foreigner, state the country of origin)
- Address: International School of Dravidian
Linguistics, St. Xavier's College P.O.
Trivandrum - 695 586
5. Names and addresses of individuals who own the newspaper and partners or shareholders holding more than one per cent of the total capital: The Dravidian Linguistics
Association of India, Kerala
Paanini Buildings,
Trivandrum, Kerala - 695 586

I, V.I. Subramoniam, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Trivandrum
1. 1. 1996

(Sd.)
V.I. Subramoniam
Signature of Publisher

DRAVIDIAN LINGUISTICS ASSOCIATION

List of Office-Bearers (1995-'96)

President

William Bright (U.S.A)

Vice-Presidents

K. Retnamma (Trivandrum)

U.P. Upadhyaya (Manipal)

B.N. Patnaik (Kanpur)

N. Sivaramamurthy (Hyderabad)

Secretaries

K. Murugaiyan (Annamalainagar)

A. Murigeppa (Dharwad)

B. Ramakrishna Reddy (Hyderabad)

L. Gloria Sundaramathy (Trivandrum)

Treasurer

V. Syamala (Trivandrum)

Executive Committee Members

S.N. Gosamy (Gauhati), T.B. Venugopala Panikkar (Calicut), C.J. Roy (Madurai), Peri Bhaskara Rao, Kempe Gowda (Mysore), P.C. Narasimha Reddy (Tirupati), Franson D. Manjali (New Delhi), B. Sukumaran Nair (Trivandrum), President of the Linguistic Society of India.

Tribal & Dialect Survey Committee

T. Madhava Menon (Trivandrum), M. Israel (Madurai), G.K. Panikkar (Trivandrum), P. Somasekharan Nair (Trivandrum), K. Brahmananda (Anantapur), B. Gopinathan Nair (Trivandrum), William Madtha (Dharwad), B.P. Mahapatra (Calcutta).

Ex-Officio

F. Ekka (Mysore) (Tribal Interest), President of the Linguistic Society of India, Poona.

Membership

- (a) Life membership (lumpsum) Rs. 750/- (US \$ 150/-) (or in three equal & successive instalments Rs. 770/- or US \$ 155/-).
- (b) Institutional membership (lumpsum) Rs. 5000/- (US \$ 500/-).
- (c) Annual membership Rs. 200/- (US \$ 40/-).

To Contact

THE TREASURER

Dravidian Linguistics Association
St. Xavier's College P.O.
Trivandrum - 695 586
Kerala
South India

BOOK REVIEWS

Two copies of the books to be reviewed should be sent. Twenty-five off-prints will be given to the reviewer and ten to the publisher.

SUBSCRIPTION

The annual subscription from 1st January to 31st December each year is Rs. 200/- for India, and US \$ 40/- for other countries. Single number Rs. 110/- (US \$ 20/-) each.

The members of the Dravidian Linguistics Association are eligible to get a free copy of *ijdl* and *DLA News* each, from the Treasurer of the DLA.

Accredited book sellers are eligible to get 25% commission for the journal.

ADVERTISEMENT

Only from publishers and academic institutions, advertisements are accepted. One insertion (full page) Rs. 300/- (US \$ 60/-); six insertions (full page) Rs. 250/- (US \$ 50/-) each.

CORRESPONDENCE

All matters relating to subscription, sales, advertisements and change of address of the subscribers, manuscripts and books for review, should be addressed to the Chief Editor, *ijdl*, St. Xavier's College P.O., Trivandrum - 695 586, South India.

Please note that the cheques drawn may be in favour of the Chief Editor, *ijdl*, St. Xavier's College P.O., Trivandrum - 695 586, South India.

